The Canadian Hospital Association is the federation of hospital associations in Canada and the Canadian Medical Association in co-operation with the federal and provincial governments and voluntary non-profit organizations in the health field.

# Canadian Hospital

THE JOURNAL OF THE CANADIAN HOSPITAL ASSOCIATION


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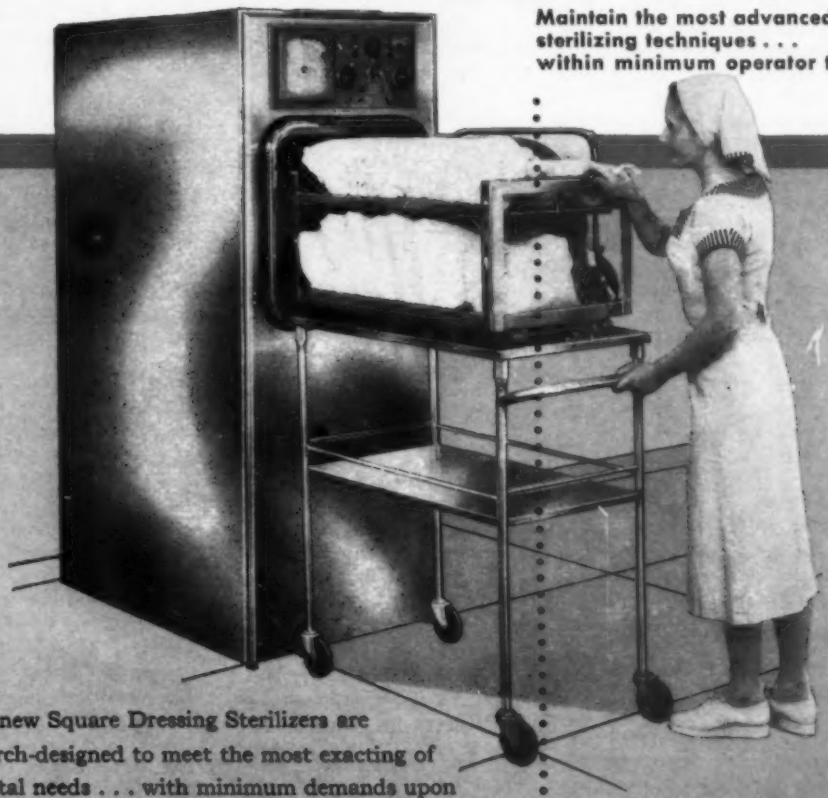

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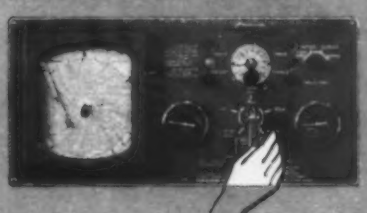

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# Notes About People

### Charles Camsell, C.M.G.—An Appreciation

The death of Dr. Charles Camsell in December 1958, at the age of 82, has removed one of the legendary figures in Canada's northern growth and mineral development. A true son of the north—he was born in 1876 at Fort Laird, N.W.T. —Dr. Camsell in later years became one of the world's most famous geologists.

For 15 years he held the post of Deputy Minister of Mines; and for 11 years after that was Deputy Minister of Mines and Resources as well as being Commissioner of the Northwest Territories. Dr. Camsell was no desk-bound expert on the North. He came to know the streams, rivers and lakes of the sprawling tundra within the Arctic Circle as well as he knew his own home. He lived and worked among the Indians and Eskimos for many years, travelling the North as lumberman, boatman, guide, mailman, teacher, explorer, as well as geologist. His early experiences are recorded in his autobiography, *Son of the North*, published in 1954.

He has left his mark in the hospital field too. For it is after Charles Camsell that Canada's largest Indian and Eskimo hospital (550 beds, operated by the Indian and Northern Health Services of the Department of National Health and Welfare, in Edmonton, Alta.) is named. This hospital Dr. Camsell officially opened in 1946. We may quote Dr. P. E. Moore, director of the Indian and Northern Health Services, as saying that of all his honours Dr. Camsell held the naming of this hospital closest to his heart. Canada is poorer by his death.

### New Superior at St. Therese Hospital

Sister Albertine Landry was appointed sister superior at St. Therese Hospital, Tisdale, Sask., to succeed Sister Marguerite Maignan who has assumed new duties at Zenon Park near Humboldt, Sask.

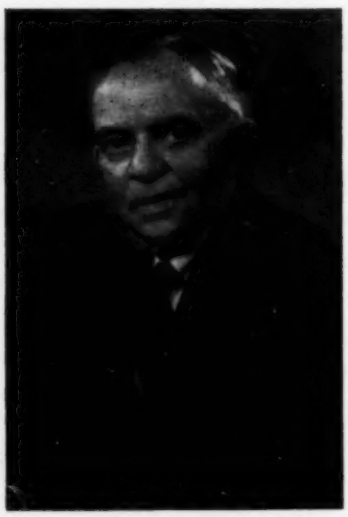
Sister Albertine is the first Canadian-born superior of the hospital. She was born in New Brunswick and graduated as a registered nurse from Vegreville General Hospital. Following graduation, Sister Albertine took a post graduate course in ward supervision at the University of Alberta in Edmonton. She has served her order at Vegreville, and Bonnyville, Alta., and has, for the past ten years, been at Tisdale.

### E. E. Dutton

On December 10 last Edgar E. Dutton died in Lethbridge, Alberta, at the age of 73.

Mr. Dutton was born in England, but came to Canada in 1912. In 1919 he was made secretary-treasurer of the Galt Hospital in Lethbridge, Alta.—a position he held for the next 34 years. He retired from the post in 1953.

He was also president of the Associated Hospitals of Alberta for two terms, and was a past chairman and member of the board of the Alberta Blue Cross plan. In 1939 Mr. Dutton became a member of the American College of Hospital Administrators. Mr. Dutton through his long years of service earned the respect and friendship not only of his fellow citizens in Lethbridge, but of people throughout Western Canada.



Edgar E. Dutton

### Changes at Salvation Army Hospitals

Brigadier Fronie Strickland is now superintendent of the Salvation Army Grace Hospital in Ottawa, Ont. A Newfoundlander, Brigadier Strickland has nursed in hospitals at Winnipeg, Toronto, Halifax, and most recently at the Evangeline Maternity Hospital in Saint John, N.B. In Ottawa she succeeds Senior Major Mabel Crolly who has been transferred to become superintendent at the Grace Hospital in Windsor, Ont.

Senior Major Grace Keeling leaves the Windsor post, where she was for 19 years assistant superintendent, to be assistant superintendent at Grace Hospital in Calgary, Alta.

### James Miller, M.D.

Dr. James Miller died on October 12, 1958, at his home in Painswick, England, at the age of 82. For 26 years he had been professor and head of the department of pathology at Queen's University, Kingston, Ont., and was also pathologist to the Kingston General Hospital, Hotel Dieu Hospital, and the Ontario Hospital there. He retired ten years ago.

Dr. Miller was a graduate of Edinburgh University and before his Queen's post lectured at Birmingham and Edinburgh Universities and was pathologist at the Royal Infirmary, Edinburgh. As chairman of the Canadian Medical Association's committee on approval of hospital schools for training laboratory technologists, for many years, Dr. Miller was instrumental in helping to raise the standards of education for laboratory technologists in Canada.

### O.H.S. Commission

The seventh member of the Ontario Hospital Services Commission is C. V. Charters of Brampton, Ont. For 20 years Mr. Charters was a member of the board of the Peel Memorial Hospital, serving as its president in 1955-56. He is also a past president of the Ontario Hospital Association.

### A.M.A. Journal Editor Resigns

Dr. Austin Smith, a native of Belleville, Ont., has resigned as editor of *The Journal of the American Medical Association* after 18 years with the association.

Dr. Austin received his medical degree from Queen's University in 1938, his M.Sc. degree in 1949 from the same university, and

*(Concluded on page 24)*

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**People**

*(Concluded from page 14)*

served as member of the pharmacology department there. He has also been a staff member of the University of Illinois College of Medicine. He became editor of the *Journal* in 1949, succeeding Dr. Morris Fishbein.

Dr. J. F. Hammond, associate editor of the *Journal*, will succeed Dr. Austin.

**Administrator For Manitouwadge**

Fred Taylor, formerly with the Dryden District General Hospital, Dryden, Ont., has been made administrator at the new hospital at Manitouwadge, Ont., which is to open shortly. He is succeeded at Dryden by E. Henshaw who comes from Manitoba.

**Appointed to Post in U.S.A.**

Phyllis Kosmyna has been appointed assistant in the executive office of the nursing service department of the 500-bed St. Vincent's Hospital, Toledo, Ohio. Mrs. Kosmyna, a graduate of Woodstock General Hospital, Woodstock, Ont., will have charge of in-service programs for registered nurses, graduate practical nurses and nurses' aides in her new position.

• A 1958 graduate of the University of Toronto's course in hospital administration, Howard Spencer, recently executive officer of the University College Hospital, Kingston, Jamaica, has been appointed manager of the Kingston Public Hospital, Kingston, Jamaica.

• New Minister of Health for Ontario is Dr. M. B. Dymond, formerly transport minister. Dr. Mackinnon Phillips has become provincial secretary.

• Dr. Gustave Gingras, executive director of the Rehabilitation Institute of Montreal and director of the School of Rehabilitation, University of Montreal, has been made full professor of physical medicine there.

• J. S. Renton, a graduate of the University of Toronto's course in hospital administration, has changed from his position as administrator at the Sydenham District Hospital, Wallaceburg, Ont., to become assistant administrator at the Muhlenberg Hospital in Plainfield, N.Y.

• Dr. Don A. Livingston has been appointed business manager of the Catholic Hospital Association of the U.S. and Canada. A graduate of St. Louis University, he has been assistant to the dean and teaching fellow at the School of Commerce and Finance there, and was chief economist, U.S. Office of Price Stabilization. He has also done work in financial management and research with various St. Louis firms.

• Dr. G. D. Barnett, formerly assistant general superintendent at Fort Qu'Appelle Sanatorium, at Fort San, Sask., is now director there.

• Appointed executive director of the Institute of Physical Medicine and Rehabilitation of Hamilton, Inc., is Doris Clark. Miss Clark recently received her master's degree in social work at the University of Toronto.


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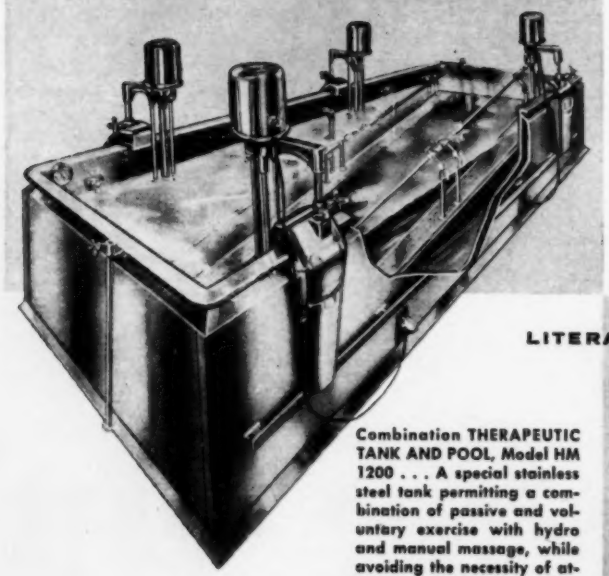

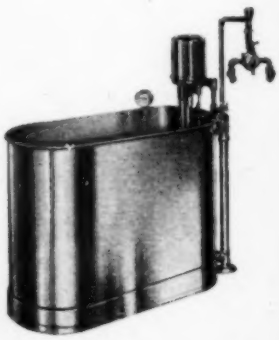

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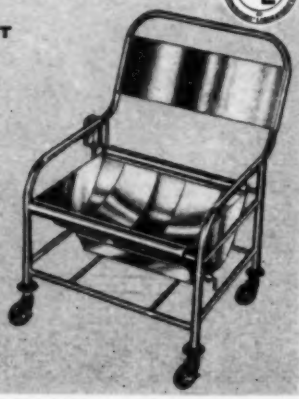

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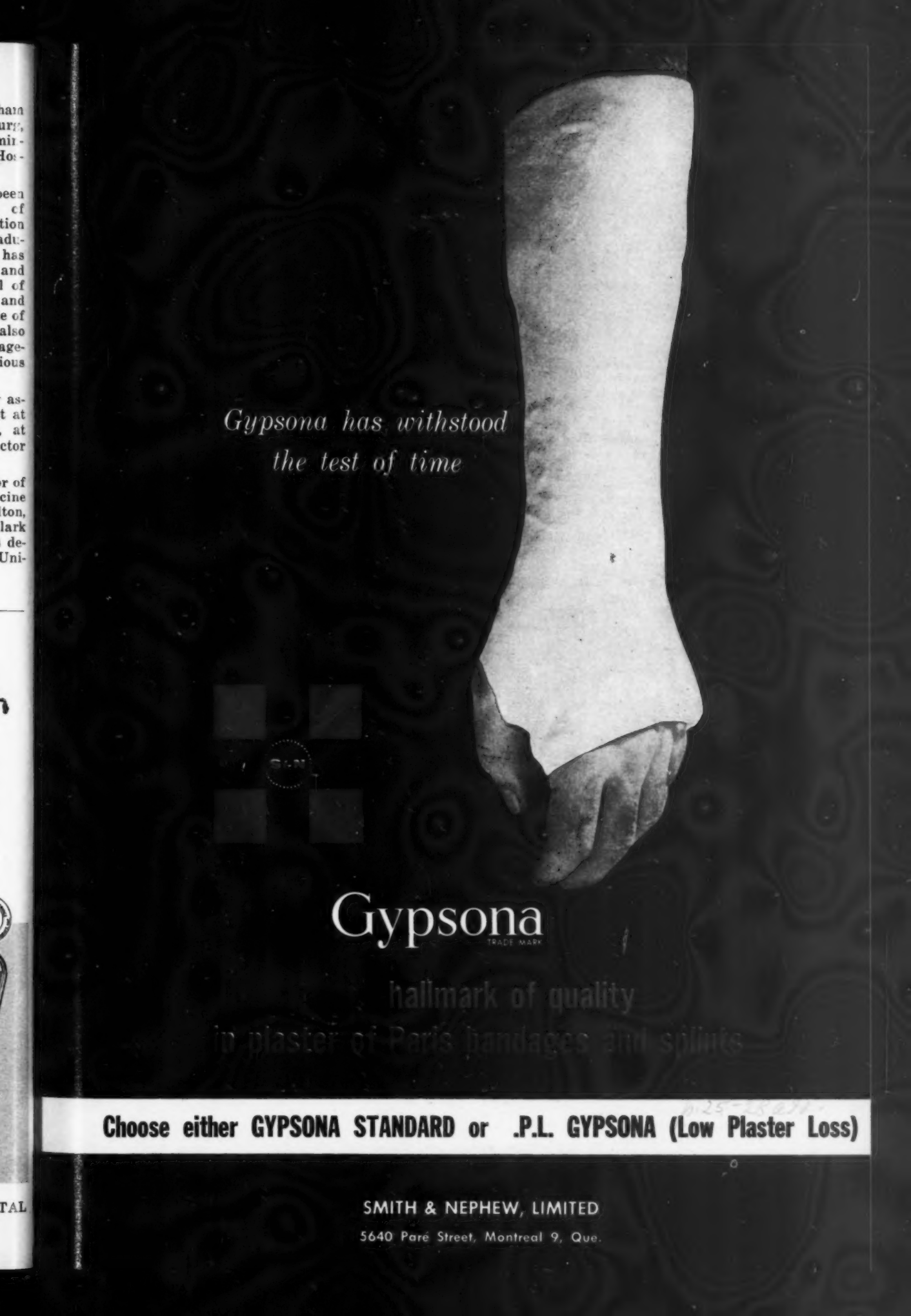
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### Special Housing Project

One British Columbia Centennial project was the building of special housing units for elderly blind persons. Captain M. C. Robinson, director of the Canadian National Institute for the Blind in western Canada had this to say: "We hope this will be the forerunner of many more such housing projects for the blind".

The 14-unit development was carefully planned. The apartments which are all on one storey contain electric ranges and refrigerators and are heated and ventilated by electricity. Double units consist of living room, bedroom, kitchen and bath; single units have a bed-sitting room, a kitchen and bath. The flowers, shrubs and trees in the gardens have been selected for fragrance as well as appearance, and a tinkling waterfall helps blind persons find their way. There is also garden space for those wishing to grow their own vegetables.

Rents are set at $27.50 for double units and $19.50 for single units. One-third of the cost was paid by the provincial government; another third came through a grant from the C.N.I.B. and donations from city residents; the remainder came from a mortgage with the Central Mortgage and Housing Corporation.—*Rehabilitation in Canada.*

**The Extension Course for Training Medical Record Librarians**

## Enrol Early for 1959

Until March 31st applications will be accepted for the 1959 class of the extension course for training medical record librarians. The course will commence in late August. This will be the seventh group of students to undertake the training sponsored by the Canadian Association of Medical Record Librarians and the Canadian Hospital Association. Persons with junior matriculation, or the equivalent, who are already employed in the medical record department of a hospital or clinic are eligible for enrollment. Either one or two years may be taken. A certificate of accomplishment is awarded by the Canadian Association of Medical Record Librarians upon the successful completion of each year. A home-study or winter session of eight months is followed each year by a 4-week intramural summer session in a Canadian hospital approved for the purpose.

Information and application forms may be obtained from: The Secretary, Committee on Education, Canadian Hospital Association, 280 Bloor St. West, Toronto 5, Ontario.

### Our Mistake

The Princess Margaret Hospital has, at present, three cobalt units in operation, not ten, as indicated in the article in the January issue of the *Journal*.


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The Canadian Hospital

# Obiter Dicta

## The all-Canadian program

THE Canadian Council on Hospital Accreditation marked the official inauguration of its program on January 17, 1959. In an impressive ceremony at Canadian Medical Association headquarters, Toronto, the Joint Commission on Accreditation of Hospitals, through its chairman, Dr. J. O. Brewer, transferred to the Canadian Council full responsibility for the accreditation program in Canada.

In addition to the members of Council, field surveyors and representatives of the Joint Commission and the A.H.A., guests present included many who had taken an active part in originating the Canadian program. Greetings were brought to Council by the presidents, or their representatives, of the four constituent organizations: the Canadian Medical Association, the Royal College of Physicians and Surgeons of Canada, L'Association des Médecins de langue française du Canada, and the Canadian Hospital Association.

At a luncheon meeting immediately prior to the inauguration ceremony, the Honourable J. Waldo Monteith, Minister of National Health and Welfare, was the guest speaker. (See page 48). During the course of his address the Minister said: "We in government are delighted with the development of a purely Canadian accreditation program. We welcome the fact that its initiation coincides so closely with the introduction of public hospital insurance. Here are two important health projects beginning more or less at the same time, independent, yet complementing each other, and having the opportunity of growing together towards a common goal. To me, these are fortunate circumstances which are bound to contribute in a very real sense to the success of both undertakings. . . . In the years ahead, the Canadian Council on Hospital Accreditation has a big job to do. You will likely run into many difficulties and problems, but I have no doubt that you will meet your responsibilities effectively and to the full. Certainly as far as the federal government is concerned you can count on our all-out support and co-operation. This is a firm pledge I leave with you on this momentous occasion. May I wish you every possible success." Congratulations and best wishes for success were also read at the inauguration ceremonies from Dr. Urquhart, chairman of the Ontario Hospital Services Commission.

Thus has come to fruition the all-Canadian program of hospital accreditation which has been the subject of debate and review by the organizations concerned since 1950. Those who were present will particularly remember the marathon debate at the 1953 biennial meeting of the C.H.A. (It lasted until nearly 1 a.m.) Four years later at the Saskatchewan meeting in 1957 this association endorsed an all-Canadian program of accreditation, but not yet unanimously. Finally at the assembly meeting in Toronto in 1958 the all-Canadian program was unanimously approved by the delegates.

We agree with the Minister of National Health and Welfare that the Canadian Council on Hospital Accreditation has a big job to do. There is not only the question of interesting far more general hospitals in the movement, particularly those between 25 and 100 beds, but there is the problem of developing suitable standards for chronic and mental hospitals. As one who has been privileged to watch the accreditation program in action over a period of years, and knowing the calibre of delegates sent to the Canadian Commission (now Council) by the constituent organizations, we believe the future of this Canadian program is assured. The *Journal* wishes Dr. A. L. Chute, the newly-elected chairman, the individual members of the Council and Dr. W. I. Taylor, the executive director, every success.

## Look Here

THE February 3, 1959 issue of *Look* magazine carried a report on hospitals which will do nothing to increase their usefulness or prestige. While the subject matter of the article by Roland H. Berg, *Look's* medical editor, is distorted, the glaring illus-

trations and sensational sub-heads are all designed to undermine confidence in hospitals on the part of patients and their relatives. The statement that "a hospital is not a fit place in which to be sick" is sweeping and is not, in our opinion, supported even by the article itself. Dr. Edwin Crosby, executive director of the American Hospital Association, and Dr. F. J. L. Blasingame, executive vice-president of the American Medical Association, have jointly taken issue with the article.

The author's report is apparently based on a survey of a few hospitals in California about which we have no personal knowledge, and according to Dr. Crosby, the survey has not been fairly interpreted. Dr. Crosby notes: "Mr. Berg devotes much space to patient dissatisfaction. But the very study he quotes is at odds with his findings." Worst of all, Mr. Berg has, by implication, applied his so-called findings to *all* hospitals.

Because this article will be seen by Canadians, we do consider it our place to say, emphatically, that the picture drawn does not portray hospital care in this country, nor does it apply in the United States. Although hospitals have their faults, your editor knows of no human organization where more genuine sympathy is felt for the unfortunate, where a human being is shown more real respect, and where more time is spent in self appraisal in an honest attempt to improve service to the individual. We believe further that the millions of patients who are treated in our hospitals each year would not agree with Mr. Berg. Else why the constant and increasing demand for hospital care?

### *Research—an important function*

AN important responsibility of the university hospital is research, both basic research and evaluation, over the years, of various methods of treatment—which we call clinical research. Research is best carried out in university hospitals because of their manpower and physical resources and also because they have ready access to so many university facilities which are so necessary to research. Obviously, space must be provided by hospitals for research else it cannot go on.

Research programs are financed by monies from special sources and not from monies paid by the patient for his hospitalization. Research programs are not initiated on the spur of the moment; they cannot be turned on and off like a faucet. They require long and hard detailed planning and direction under competent doctors and their execution is measured in years rather than in months.

What has been accomplished in research in the various centres of the world in recent years? More curative drugs have been discovered in the past 25 years than in the whole previous history of medicine. In the same 25 years research has given us the antibiotics, and has expanded many times over our knowledge of the value and uses of blood transfusion; it has made possible the daily occurence of surgery of the stomach, the heart, and the lung; research has given us the blood bank, the bone bank, the eye bank and the blood vessel bank; it has saved more premature babies and it has given us the Cobalt 60 treatment unit for cancer; research has given us a potent weapon in the fight against poliomyelitis.

Twenty years ago in one of the foremost clinics of the world, three to five mothers in every 1,000 died in childbirth; during the past eight years in the same clinic more than 26,000 mothers have been delivered with only seven maternal deaths, a drop in the rate by 93 per cent. In the past 25 years, infant mortality has dropped 63 per cent and the death rate in tuberculosis, 90 per cent. Since 1900 the death rate in pneumonia and influenza has fallen 86 per cent.

We recognize the benefits derived from the protection now afforded through safe water, clean milk, and inoculation against typhoid, tetanus and diphtheria.

It is appropriate that we pause a moment and ponder over these wonderful advances in medical science which have been brought about by the dedicated efforts of countless numbers of men and women. Because of their efforts, and not by mere good fortune, we today are living longer and are enjoying better health than was even thought possible a generation ago.

—*J. Gilbert Turner, M.D.*

### *Programme entièrement canadien*

LE Conseil Canadien pour l'Accréditation des Hôpitaux a officiellement inauguré son programme le 17 janvier 1959. Au cours d'une émouvante cérémonie au siège de l'Association Médicale Canadienne à Toronto, la Commission Mixte pour l'Accréditation des Hôpitaux, en la personne de son président, M. le docteur J. O. Brewer, a remis au Conseil Canadien l'entière charge du programme d'accréditation pour le Canada.

Outre les membres du Conseil, des inspecteurs et représentants de la Commission Mixte et de l'A.H.A., cette cérémonie réunissait de nombreuses personnalités ayant activement participé à la création du programme Canadien. Des remerciements furent adressés au Conseil par les présidents ou par les personnes représentant les présidents des quatre organisations membres: l'Association Médicale Canadienne, le "Royal College of Physicians and Surgeons of Canada," l'Association des Médecins de langue française du Canada, et l'Association des Hôpitaux du Canada.

Au cours d'un repas servi juste avant la cérémonie d'inauguration, l'Honorable J. Waldo Monteith, Ministre de la Santé Nationale et du Bien-Etre Social, était l'orateur invité (Voir page 48). Dans son discours Monsieur le Ministre dit notamment: "Au gouvernement nous sommes enchantés de ce qu'un programme d'accréditation purement Canadien ait été mis sur pied. Nous sommes heureux que son point de départ corresponde de si près à la date d'introduction de l'assurance hospitalisation gouvernementale. Voilà deux importants projets de santé publique mis en oeuvre à peu près au même moment, indépendants l'un de l'autre et cependant se complétant l'un l'autre, et qui peuvent se développer ensemble vers un but commun. Pour moi, ce sont là d'heureuses circonstances qui contribueront de façon très positive au succès de l'une et l'autre entreprise . . . Au cours des années à venir, le Conseil Canadien pour l'Accréditation des Hôpitaux a une grande tâche à accomplir. Vous rencontrerez très probablement bien des difficultés et problèmes, mais je ne doute pas que vous vous acquittiez de vos responsabilités de façon effective et complète. En ce qui concerne le gouvernement fédéral, vous pouvez certainement compter sur notre entier soutien et notre entière collaboration. C'est là un engagement ferme que je prends envers vous en cette occasion mémorable. Permettez moi de vous souhaiter tout le succès possible." Lors de la cérémonie d'inauguration, lecture fut également donnée des félicitations et meilleurs voeux de succès de la part de M. le docteur Urquhart, président de l'"Ontario Hospital Services Commission."

*(Suite à la page 94)*

# Problem of the Mattress in Cross-Infection

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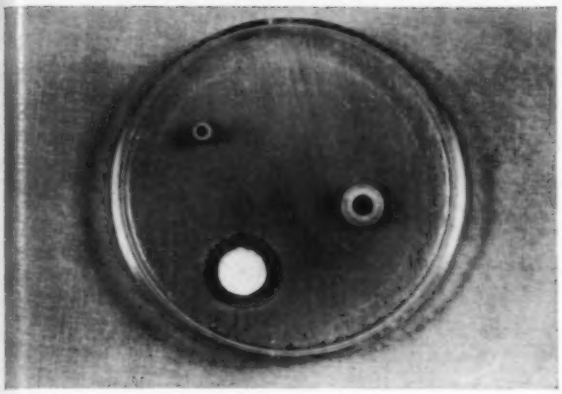

*Figure 1. Contrast the effects of catheter rubber (top left), latex tubing (right) and foam rubber (bottom left) upon a plate culture of S. aureus.*

THE probability of the mattress acting as a source of hospital cross-infection has been stressed in recent years and, in this country, particularly by Dr. J. C. Colbeck in relation to staphylococcal infections. The main problem has been how to disinfect the body of a mattress once its slip-cover has been removed. Various methods, each having their own particular disadvantage, have been advocated. At the University Hospital in Saskatoon, which is equipped throughout with foam rubber mattresses, we have relied upon formalin fumigation of the mattress. This is carried out in the room as part of the terminal disinfection of the entire room and under the present procedure the slip-cover is not removed.

The question was raised as to what should be done with grossly soiled mattresses and preliminary experiments showed that these might be washed in a laundry washing machine. Since such a procedure might be useful for disinfecting as well as cleansing, an investigation of the effects of washing upon the bacterial flora of the mattress was proposed.

It was not long before it was discovered that foam rubber as a substance, was bactericidal and attempts to grow organisms in its presence often failed. Moreover, in a 'biopsy' survey of 20 mattresses in use upon the wards it was found that the pieces removed from 18 of these proved sterile when cultures were attempted with either solid or fluid media. The 'biopsies' consisted of fragments removed with bronchoscopic biopsy forceps from an area of the undersurface of the mattress, deep in the honeycomb and close to the lying surface of the mattress.

Investigation of the foam rubber by a 'disc method' somewhat similar to that used in antibiotic testing revealed that a zone of inhibition could be observed on plates seeded with pure cultures of bacteria. Zones of up to 4 mm. were observed with a variety of species. The following species were tested and found to be sensitive to the action of the foam rubber: *S. aureus*, *E. coli*, *Proteus mirabilis*, *Salmonella typhosa*, a *Pseudomonas* strain, a *Paracolobactrum* strain. As yet, other species have not been tested and we have confined our observations to the effect of the substance upon *Staphylococcus aureus*. A standard strain (No. 4728) known to be sensitive to penicillin and other common antibiotics was obtained from the provincial laboratory, Regina, and used throughout the experimental procedures.

Before proceeding further we tested the effects of a variety of rubberware by means of the 'disc' technique. While new catheter rubber, penrose drain, dental drain, and white jaconet gave no zone, good zones were observed with rubber sponge, ivalon sponge, and all of the 20 'biopsy' specimens of mattresses in use in the hospital. Figure 1 illustrates the zone effect observed with a pellet of foam rubber placed upon a plate culture of *S. aureus*. The absence of zones around a piece of new catheter rubber and a piece of latex tubing stands in sharp contrast to the wide zone seen around the foam rubber. Similar zones around four biopsy specimens taken from mattresses in use in the wards of the hospital can be seen in Figure 2. The presence of a fine line of growth surrounding one of these specimens is a phenomenon which will require further investigation.

We have studied the dynamics of the autosterilization process as we have observed it upon foam rubber mattress pellets of standard weight impregnated with a standard inoculum. Pellets of approximately 150 mg weight have been used and each pellet was in-

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*Dr. Swanson is the executive director of the University Hospital. Dr. Dempster is chief of the hospital's department of bacteriology and Miss Davy is senior technician with the department.*

*This paper was presented at the twenty-sixth annual Christmas meeting of the Canadian Public Health Association in Montreal, Que., December 15 and 16, 1958.*

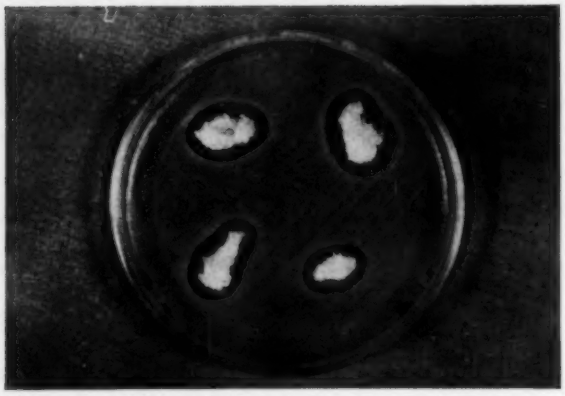


*Figure 2. Effects of 'biopsy' mattress specimen upon a plate culture of S. aureus.*

oculated with 42 million staphylococci. The inoculum was prepared by taking a 17 hour brain heart infusion broth culture and diluting it with further medium until a concentration of 84 million organisms per ml. was obtained. Counts were standardized with the aid of a spectrophotometer. Each pellet absorbed 0.5 ml. of the suspension or 42 million organisms. The individual pellets after being soaked with inoculum were left to dry in a petri dish and tested at hourly intervals for viable staphylococci. The pellets did not require sterilization before inoculation — as contamination was an exceedingly rare occurrence. The procedure used is illustrated in Figure 3.

To test for viable cocci, the pellets were shaken for 10 minutes in a Brunswick shaker along with a measured volume of broth. Since the bactericidal agent was diffusible, experiments were conducted with pellets shaken in 10, 50, and 100 ml. volumes. After the shaking procedure, 1 ml. of the broth was removed and appropriate dilutions were made so that a countable number could be obtained in a pour plate after the manner of a water or milk colony count (3 plates were tested per dilution and the average count established.) It is apparent from *Table I* that the number of recoverable organisms was influenced by the volume of the fluid used in the shaking procedure. There was not a marked difference between the 50 ml. and 100 ml. volume counts but it was felt that continued action of the bactericidal agent would be minimized if a 100 ml. volume were used for the recovery of viable bacteria from the pellet. This was

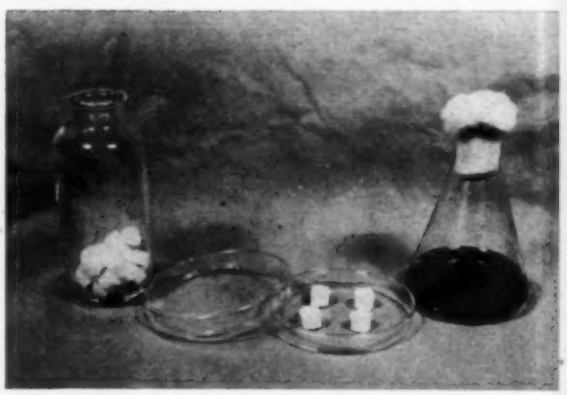


*Figure 3. Foam rubber pellets are saturated with S. aureus in bottle (left) exposed to dry in petri dish and shaken for 10 minutes in 100 ml. broth (flask right).*

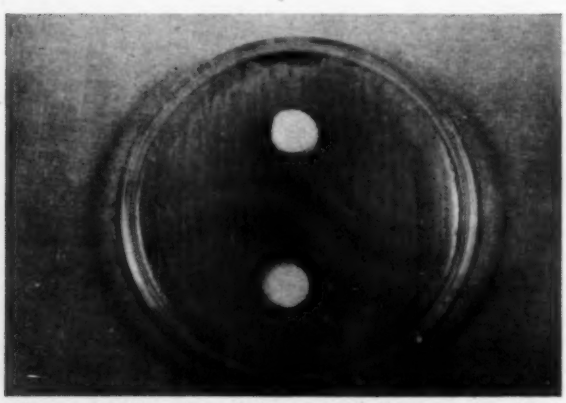


*Figure 4. Pellet of washed (3x) new foam rubber (top) with small zone and pellet of fumigated (10x) new foam rubber (bottom) showing large zone on a plate culture of S. aureus.*

adopted as standard procedure. The activity of pellets obtained from new unused mattresses were compared with those from a representative mattress which had been in regular use in the hospital over a period of four years and from another mattress which had been discarded as not fit for further use. It was found that, even although aging affects the activity of the substance, mattresses which had been in use for four years still retained considerable activity. *(Table II)* However, a discarded mattress which had suffered various unrecorded indignities had a much reduced rate of activity and furthermore gave a negative reaction with the zone test. Controls conducted with absorbent cotton pellets showed that the loss of viable organisms owing to the drying process over an 8-hour period was less

than two-fold when counts of 4-5 million were obtained in the first hour.

In similar fashion pellets from new mattresses which had been exposed either to repeated washing or to formalin fumigation were compared with untreated new foam rubber. *(Table III)* It is noteworthy that washing and fumigation both weakened the effects of the bactericidal agent as measured by the viable count and that the treatment given with these procedures proved harsher than aging. There was no alteration in the activity of the agent as measured by the zone test performed with fumigated new foam rubber. However, the results of the zone test with washed new foam rubber were in accord with the weakened effect noted with the viable count method. (Figure 4).

### Discussion

In discussing the effect of foam rubber mattress fabric upon bacteria, we must make some attempt to relate these findings to the practical situation as we find it upon the wards of the hospital. At the outset one is impressed by the wide range of bacterial species affected and the fact that bactericidal action has been detected in mattresses that have been in use for four years.

At present we have no information regarding the action of the foam rubber upon bacteria that are not suspended in a fluid environment. In our present experimental procedure, the foam rubber is soaked at the start and the substance is free to act in this state until the pellet dries — a process which takes four to five hours. While one would not expect any direct action upon organisms in the completely dry state, it might be possible to demonstrate activity of the substance when air with a high humidity is in circulation. Perhaps all we have to do to sterilize a foam rubber mattress is to strip it of its cover and spray it with water. This would result in the release of the diffusible substance and its lethal effect upon any bacteria in the fabric might automatically follow. We plan to carry out tests of this nature, basing them upon our present observations. Since washing in alkaline (pH 10.2) soap washes appear to weaken the action of the bactericidal agent it may be wise to advocate discontinuance of this procedure. On the other hand the activity of the bactericidal agent was not completely removed by 3 washes and further washing in a machine is apt to cause deterioration of the fabric. Repeated fumigation with formalin by ten successive exposures caused slight loss of activity but the question remains whether the processes of aging and further re-exposure to formalin might cause more rapid disappearance of the bactericidal activity.

It should be pointed out that these results were obtained from tests of a preliminary nature, and that considerably more study will have to be given to the nature of the activity described before recommending specific procedures for terminal disinfection. If the results are substantiated, it may prove worthwhile to advocate the use of foam rubber mattresses. ■

NOTE: The authors wish to acknowledge the help given by Dunlop Canada Limited who generously supplied foam rubber mattress fabric for this project. We would like to acknowledge, also, the help of our laundry manager, N. P. Smith, and our housekeeper, Mrs. E. A. Skinner.

**Table I**

**Recovery of Live Organisms From Inoculated New Foam Rubber**

The dilution effect

| Time after Inoculation* | Volume of broth used to wash. 10 ml. | 50 ml. | 100 ml. |
|---|---|---|---|
| 3 hrs. | 96,000 | 31,000 | 58,000 |
| 5 hrs. | 55 | 2,000 | 3,350 |
| 6 hrs. | 17 | 425 | 300 |
| 7 hrs. | 0 | 0 | 0 |

* Standard Inoculum of $4.2 \times 10^7$ Staphylococcus aureus.

**Table II**

**Effect of Aging Upon the Bactericidal Action of Foam Rubber**

Number of live organisms recovered

| Time after Inoculation* | New Mattress | Used (4 yrs.) Mattress | Discarded Mattress |
|---|---|---|---|
| 1 hr. | $3.8 \times 10^7$ | $2.6 \times 10^7$ | $2.8 \times 10^7$ |
| 2 hrs. | $7.3 \times 10^6$ | $1.8 \times 10^7$ | $1.7 \times 10^7$ |
| 3 hrs. | $1.4 \times 10^6$ | $3.3 \times 10^6$ | $6.3 \times 10^6$ |
| 4 hrs. | $1.0 \times 10^5$ | $9.2 \times 10^5$ | $3.7 \times 10^6$ |
| 5 hrs. | $1.3 \times 10^3$ | $2.5 \times 10^5$ | $4.1 \times 10^6$ |
| 6 hrs. | $1.0 \times 10^3$ | $1.0 \times 10^3$ | $1.4 \times 10^6$ |
| 7 hrs. | $< 1.0 \times 10^3$ | $< 1.0 \times 10^3$ | $1.1 \times 10^6$ |
| 8 hrs. | $1.0 \times 10^3$ | $< 1.0 \times 10^3$ | $9.5 \times 10^5$ |

* Standard Inoculum of $4.2 \times 10^7$ Staphylococcus aureus.

**Table III**

**Effects of Washing or Fumigation Upon Bactericidal Action of New Foam Rubber**

Number of live organisms recovered

| Time after Inoculation* | Untreated | Washed‡ | Fumigated‡ |
|---|---|---|---|
| 1 hr. | $3.8 \times 10^7$ | $1.8 \times 10^7$ | $1.9 \times 10^7$ |
| 2 hrs. | $7.3 \times 10^6$ | $2.8 \times 10^7$ | $2.1 \times 10^7$ |
| 3 hrs. | $1.4 \times 10^6$ | $1.4 \times 10^7$ | $1.6 \times 10^7$ |
| 4 hrs. | $1.0 \times 10^5$ | $6.2 \times 10^6$ | $1.2 \times 10^7$ |
| 5 hrs. | $1.3 \times 10^3$ | $2.2 \times 10^6$ | $1.1 \times 10^6$ |
| 6 hrs. | $1.0 \times 10^3$ | $7.0 \times 10^3$ | $4.0 \times 10^3$ |
| 7 hrs. | $< 1.0 \times 10^3$ | $2.7 \times 10^3$ | $2.0 \times 10^3$ |
| 8 hrs. | $1.0 \times 10^3$ | $4.5 \times 10^3$ | $3.0 \times 10^3$ |

* Standard Inoculum of $4.2 \times 10^7$ Staphylococcus aureus.
‡ Washed in laundry machine three times.
‡ Exposed to formalin as in terminal disinfection upon ten occasions.

*The hospital before 1956*

# Expansion Program

## — a new look at

# The Winnipeg General Hospital

*by*
*Peter R. Carruthers*
*Winnipeg, Man.*

ON SEPTEMBER 20, 1958, the new north wing of the Winnipeg General Hospital was officially declared open for community service. This ceremony marked the dedication of the first addition to the main hospital building since 1912.

### A ten year program

Progress in building and construction has been evident at the Winnipeg General since 1950—when the women's pavilion, a separate building for obstetrics, was put in service. This pavilion added 108 beds, 146 bassinets, and supporting services to the hospital. The years 1954 and 1955 saw construction of the medical centre apartments for professional and technical hospital staff—apartments which have a total of 132 suites (See *Canadian Hospital*, July 1954.) In June of '56 the new school of nursing, along with a nurses' residence, was opened. It contains complete nursing school facilities, an auditorium, a suite for the director of nursing, and 223 single student rooms.

Upon completion of this project, work began on a new interns' residence, using the principle of lift-slab construction. This residence opened in February of 1957. Here are housed 86 single rooms, plus a cafeteria and recreational facilities.

### Basic planning

As a result of Greater Winnipeg's rapid growth, the need for additional beds for patients became evident five years ago. This was compounded, in Winnipeg, as elsewhere, by the growing use of hospital services. At this time it was decided that the oldest part of the hospital, built in 1884, had seen its day. This 1884 wing comprised two large public wards of 36 beds each—72 beds in all. A primary consideration during planning involved keeping all pre-1956 beds in use until they were replaced by new beds in the north wing. Added to this was the fact that a certain number of public teaching beds had to be maintained for the school of medicine. Then, too, when a new service

*The author is administrative resident at the Winnipeg General Hospital.*

wing was to be built, the hospital would have to remove parts of buildings then housing patients. The board decided to build enough bed space to make a net gain of about 300 beds.

Finally, not only were patient beds required, but additional operating theatres, larger and improved laboratories, and new medical service departments were called for as well. This reflects the great increase in services that are part of the modern practice of medicine.

In 1911 an addition was made to the hospital in the form of an "H" (see diagram on page 45). The centre section housed administrative offices and operating rooms. The two sides of the H, or east and west wings, extended forward into a beautiful park in front of the hospital. At one point it was thought to extend the centre section to the west and to increase its height. This would have preserved the front entrance and the park surroundings. Further planning, however, indicated that it would be wiser to build completely across the front of the hospital with a two-storey centre section extending back to link up with the old front entrance. A front wing has many advantages: it would mean the least interruption of services to the hospital; it would form a good connection with the old building; it was very convenient for traffic flow in the hospital; and it provided for a new entrance from the park.

With all these requirements in mind, hospital authorities decided to build the present new wing. It is a seven storey brick, aluminum and marble-faced structure, providing 325 patient beds, a complete floor for laboratories, new departments of medical social service, out-patients, pharmacy, business office, administration, nursing, medical records, diagnostic radiology, and physical therapy. One complete floor, the seventh, was designated for operating rooms and related services.

When one looks at the front of the hospital now, a completely new face is seen, and the older sections of the hospital are hidden from view. All this was achieved without spoiling the beauty of the park in front—still a sizeable piece of attractively landscaped ground. No longer is there a complete driveway across the front of the hospital with a circular portion in front. A new roadway has been built, which takes the form of a partial semi-circle extending up to the new front entrance.

## Construction

The first sod was turned on January 6, 1956. Construction moved ahead rapidly so that by November of the same year the building was enclosed. The first department to begin service in new quarters was the out-patients', which opened in October, 1957, in time for the fall term of the medical school. By July of last year all departments were successfully moved. One by one the new wards were put into operation, the 1884 building was closed down, and the new $5,800,000 wing settled down to business.

## Sources of capital funds

It is gratifying to know that of the total cost of this wing, a little more than $2,100,000 were generously donated by public-spirited citizens of Winnipeg and Manitoba, as well as from other parts of Canada. These monies were part of a joint hospital fund of the Winnipeg General and the Children's Hospital. Accumulated bequests to the Winnipeg General Hospital were also part of the funds used for this project. The remainder was obtained by means of federal-provincial grants, amounting to $1,700,000, together with a debenture issue of $2,000,000.

## The building

The building itself is long and narrow, of single corridor type. A core of elevators is situated in the centre of the wing, making a

***Architects:***

***Moody and Moore,***

***Winnipeg***

*The hospital's new face*

*The main lobby—white and mahogany*

natural division. The basement floor houses the clinical laboratories. A main floor at ground level provides a new entrance, administration offices, nursing offices in the "A" wing, and pharmacy, social service and out-patients' departments in the "D" wing. The out-patients' department has its own entrance from the new driveway. It is also at ground level, thus having easy access, especially for elderly patients. On the second to fifth floors inclusive, two equal wards of 36 semi-private beds are found. On the sixth floor are two private wards—one with 17 beds, the other with 20 beds. The seventh floor is devoted to operating rooms and related facilities.

Medical records and diagnostic radiology are found on the first floor of the centre "G" wing. Physical therapy occupies the second floor of this wing.

The elevator system is composed of two banks, one bank has two passenger cars, the other has three service cars. These banks are in distinct areas, cleanly separated by a distance of 20 feet and by separate walls. A shaft for an extra passenger elevator has been provided so that when necessary a total of three passenger cars may be put into use. Upon entering the lobby the visitor sees only the passenger elevators — and the enquiry desk—which promotes good traffic flow and visitor control.

## Communications

Throughout the wing a system of pneumatic tubes has been installed, connecting all patient and service areas of the new wing. Provision has been made for the eventual extension of the tube system to the entire hospital. A central receiving and dispatching room is located on the first floor behind the bank of passenger elevators.

An automatic switchboard has been installed for inter-department telephone calls. Communication facilities in the wing are carried out by voice from the main switchboard via a public address system. All speakers are mounted flush in the ceilings and a volume control is maintained in the communications centre. Added to this is a system of flashing call lights which are coded and numbered for the individual doctor. The doctors also have a lighted "in and out" board, one panel of which is in the new main lobby; the other panel is beside the hospital switchboard.

Departmental inter-communications have been installed in the pathology laboratories, diagnostic radiology, and operating room areas. All these areas are quite large so a communications apparatus is a sound investment. All inter-communications systems, for easy use, are located next to incoming telephone lines. The operating room system has a "lock-out" feature in each theatre in case a surgeon does not want to be disturbed.

Air conditioning has been installed throughout the new wing too. It controls the temperature only, and not the moisture content of the air. Each patient room has an individual air intake, whereas in the operating room and basement areas the standard air conditioning unit is found. Thermostats can be adjusted only by a maintenance man, not by the patient or staff member. The air conditioning maintains a level 72 degrees F. at all times, and is especially valuable during the hot Winnipeg summers. It is interesting to note that most patients ask for 74-76 degrees F. during the winter.

All lighting is from semi-flush mounted fluorescent fixtures which provide enough candle power and do not collect dust. In the patient's room the lights are semi-flush wall-mounted above the bed. These lights have fixtures made of moulded plastic and have three-way control, *i.e.*, up, down, or both lights on at once.

Soundproofing material has been used on all ceilings. Each floor has a different colour scheme keyed to the reception area off the elevator entrance. Here the walls have been done in small half-inch glass ceramic tiles in a mosaic pattern. These tiles have been inlaid in a variety of colour schemes and designs—each floor is different—they are very attractive indeed.

## Laboratories

The entire basement of the new wing has been given over to laboratory services, housed previously in a 50-year old separate building near the west wing of the hospital. One half of the basement, up to the centre of the building, is allocated to the department of pathology. Since this is a large laboratory all major activities have been given separate rooms. Included is a large general workroom and sleeping facilities for the resident in pathology on call. At the end of the wing is the autopsy room. This room has five tables and refrigeration units for 14 bodies. A small separate elevator connects the morgue with the first floor entrance for undertakers.

The other half of the basement in the "A" wing is divided between the departments of biochemistry and bacteriology. Each department has its own routine laboratory with other adjoining rooms for special functions, including research. A wash-up and sterilizing room is shared by these two divisions.

At the extreme end of this "A" wing is the virus laboratory which serves the entire province. The hospital has made this area available to the province free-of-charge.

## The new entrance

The first or main floor of the hospital has at its centre the new entrance which opens into a spacious and tastefully decorated lobby. The medium mahogany panelling is accentuated by white counter surfaces on the cashier's ledge of the business office and the ledge of the enquiry desk. A pale pink and green tinted terrazzo floor, inlaid with the green crest of the hospital, helps make a distinctive lobby. Immediately beyond the lobby are the passenger elevators set in a recessed area where the walls are off-white marble. Lighting from a suspended ceiling gives a very striking effect in this area.

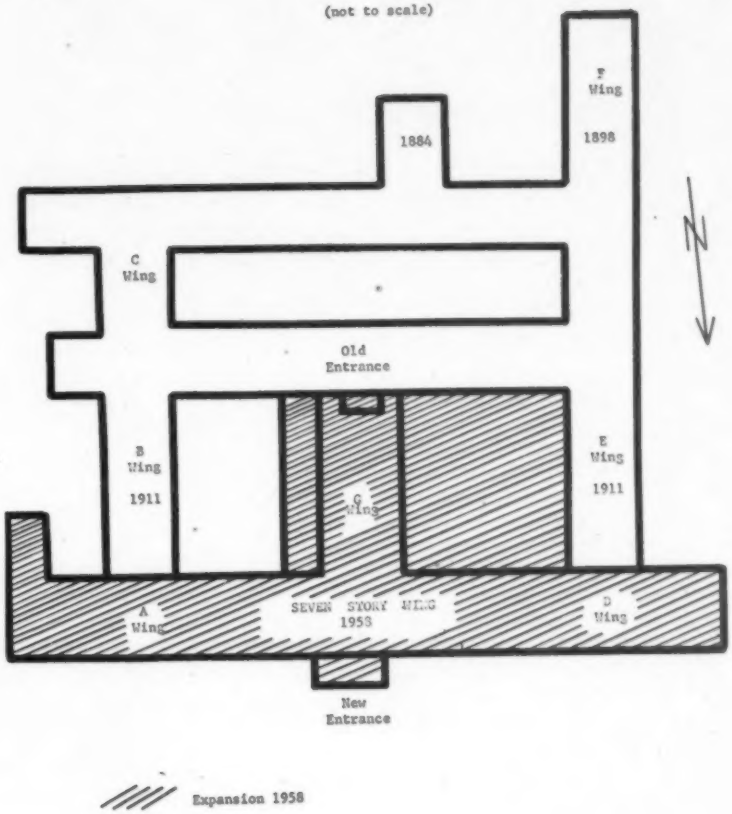
## Offices

To the left of the lobby, as one enters, are found the business office, controller's office, administration suite, nursing offices, and a new board room. Also to the left is the ladies' auxiliary shop, "The White Cross Gift and Flower Shop." With its glass front and dark blue awning extending into the corridor, it adds to the attractiveness of the area.

To the right are located the enquiry desk, pharmacy, medical social service and the out-patients' department.

The Winnipeg General Hospital
Plot Plan
1958

(not to scale)



*U-shaped shelves are time and space savers*

## Pharmacy

The new pharmacy has two large rooms; one for dispensing and one for manufacturing. There is a large storage area directly below in the basement.

One interesting labour-saving feature in the dispensing room is a row of continuous "U"-shaped shelves along the full length of one wall. The pharmacist can stand at a focal point and reach all drugs within the "U" with a semi-circular movement of his arm. The "U" shape means, too, that shelf space is increased throughout the area.

## Social services at work

The social service department now has a new large open office for the case workers, together with an office for the director. Since it operates in this hospital

*A section of the out-patient department*

of Medicine greatly influenced he planning.

The department occupies almost half of the first floor in the "D" wing. A separate entrance at the front of the building opens into a large waiting area which has a long main counter. The entrance was designed to separate the flow of out-patient from in-patient traffic, thereby relieving congestion in the main lobby.

Across the central corridor is a screening area with a weighing room, rooms where various specimens may be obtained, the office

in close conjunction with the out-patient department, they are nearby each other.

## Out-patients' department a teaching centre

The Winnipeg General Hospital is one of three hospitals providing organized out-patient services to this community. Each day, on the average, 200 patients are cared for in the various clinics. Therefore the department had to be planned for good patient flow, while assuring adequate medical attention. Then, too, the fact that it is a major teaching centre of the University of Manitoba School

*Nursing station has light control panel; medication room is behind.*

*Stretcher bays in the x-ray department*

of the head nurse, and a small but very complete, routine clinical laboratory. Also on this side are found a large clinical teaching and lecture room, and the office of the medical co-ordinator of the out-patient department.

On the other side of this department is a double corridor arrangement housing 13 examining rooms each well equipped—with a small dressing cubicle, running water, examining tables, chairs and desks for the doctors. In the examining room area are three subwaiting rooms to help control the

flow of patients. There is also a dental clinic and an ear, nose and throat clinic with one common waiting room.

Here, too, the hospital interpreter has her office.

## Patient accommodation

The second to fifth floors are all semi-private wards of 36 beds each, two wards per floor, as noted above. Each two-bed ward is equipped with piped-in oxygen and suction apparatus, a three station radio with pillow speaker, and an audio communication system which connects with the nurses' station, variable height electric beds, two steel clothes lockers, and washroom facilities. The washroom does not have tub or shower, as these are provided in a central bathroom in each ward. Handrails are attached to three walls in the washroom for safety. An emergency signal device is standard equipment in these washrooms.

Private rooms on the sixth floor have features identical to the semi-private rooms, except that here individual tub and shower facilities are built into every bathroom. On this floor there are two suites which, in addition to the above features, have a private sitting room attached.

## Ward features

The ward itself is laid out with patient rooms on each side of a central corridor. Halfway along its length is the nurses' station. Included in each nurses' station is a small medication room with a "pigeon hole" arrangement built into the wall. Each patient has an individual compartment for prescribed medications. This is a very handy arrangement for busy nurses, for it helps avoid errors. Near each nurses' station is a conference room and an adjacent laboratory. The conference room is used as a charting space for nurses and interns and for medical staff consultations. One interesting feature in the nurses' station is a master light control switch by which the intensity of all lights in the corridor areas can be controlled. Ward kitchens have been designed for eventual installation of central food service and are, therefore, quite small. Each ward kitchen is a complete unit and has been equipped with a small ice-cube maker and dispenser.

On each floor there is a small waiting area between the two wards for visitors and ambulant patients. Each floor also has one large room used as a quiet room where those who have seriously ill relatives or friends in hospital may remain outside regular visiting hours. There is a classroom on each floor with blackboard and desks. On each floor also there is a letter drop chute which is connected to a mail box in the lobby.

## Operating rooms

The top, or seventh floor, is devoted exclusively to operating rooms. There are 17 theatres and supporting services. The floor is divided into two general areas of operating rooms at each end. The centre section houses the recovery room, operating room supervisor's office, blood bank, dictating station, a fracture room, anaesthetists' office and workroom, frozen section laboratory, and nurses' and doctors' locker rooms.

The theatres are in pairs, flanking a sub-sterilizing unit, with the theatre doors opening into the corridor. All sub-sterilizing units are open to the corridor so that staff can circulate freely. This lay-out is also a space saver. The scrub-up units have an aerated flow of water, designed to eliminate splashing.

Between each sub-sterilizing unit and the operating room is a glass partitioned "pass-through" for instruments, blood, and a standard inventory of surgical requirements. This is one effective means of reducing traffic into the operating room.

For identification, rubber tile flooring in various colours has been used throughout all areas of the operating room floor. Grey tile is used in the non-sterile centre section. Pale green tile is found in the operating room areas. Dark green tile covers the floor of the operating room itself. Black tile is used in the operating room immediately beneath and surrounding the table for a distance of three to four feet. This black tile area marks off to unscrubbed personnel the sterile area in the operating room.

All gases and suction lines are suspended from the operating room ceiling in a fixed shaft rather than from long, swinging booms. Intravenous solutions can be suspended from these shafts as well. By having gas lines suspended from the ceiling, stepping or tripping over hoses is impossible as all lines are off the floor. Also suspended from the ceiling is a cord carrying an elec-

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*In the operating room note ceiling-hung electrical outlet, glass pass through, open shelves and coloured floor marking off degrees of sterility.*

# "A major event in health progress"

*an address given by the*
*Hon. J. Waldo Monteith,*
*Minister of National Health and Welfare,*
*at the inaugural meeting of the*
*Canadian Council on Hospital Accreditation*

THIS is an event of major importance in the nation's health progress. Indeed, I can think of few more significant steps ever undertaken by voluntary or professional health organizations in this country. On behalf of the dominion government, may I congratulate everyone who has made it possible. A striking achievement, this project should contribute much to our common effort of providing Canadians with health care of the highest calibre. I would like to think—and I am sure I am correct in doing so—that your invitation to me to be here reflects the sense of partnership achieved in Canada between government and private agencies in the health field.

Although only logical, such co-operation is far from automatic. As we all know, it has to be worked at in small things and in large. But the rewards are more than worth the effort—as witness the way in which government, organized medicine and hospitals have joined forces in bringing the new hospital insurance plan into operation. Without doubt, this most complicated project could not even have been attempted but for the mutual trust and understanding built up over the years by the various branches of our health team.

As I have said, the formation of the Canadian Council on Hospital Accreditation is a major event in our health progress. The work it will perform is, of course, not new to this country. Substantial improvement in hospital care standards has already been achieved through the stimulus of the Joint Commission on Accreditation of Hospitals — a body which has pooled the resources of medical and hospital groups in Canada and the United States in an expanding program to raise the quality of hospital services on both sides of the border.

Among the advantages that have resulted from this work I would include not only the betterment of medical care through improved supervision and control of hospital procedures, but also the impetus to responsible surgery, the growth of medical staff committees and the fostering of medical research generally.

The program's achievements are important. But no less important is the way in which it has been carried out. This has not been something imposed from above by government or any other authority. Hospital accreditation has been a spontaneous effort on the part of the medical profession and hospitals to put their own houses in order—to set their own ideals of service and efficiency and to translate these into practice. They have been their own conscience and watchdog. They have asked for no financial assistance from any quarter. Theirs has been an exercise in self-discipline which could well commend itself to professional groups everywhere.

In the tradition of Canadian life, governments have welcomed this development with open arms. Not only have they had no desire to get involved in accreditation, but they have realized that the work itself could best be done independently by those who furnish the services designed for improvement. This has certainly been the view of federal authorities and has, I believe, been fully justified by the results achieved.

Hospital accreditation has been a great success in Canada, thanks in large measure to the support it has received from such organizations as the Canadian Medical Association, l'Association des Médecins de Langue Française du Canada, the Royal College of Physicians and Surgeons of Canada, and the Canadian Hospital Association. All have done a superb job in sponsoring this enterprise, which has now reached the point where it can be carried forward on a purely Canadian basis. While it is perhaps unfair to single out any individual, I am sure you will agree that a major debt of gratitude is owed to Dr. Kirk Lyon for his dedicated service to this work. The launching of an all-Canadian accreditation program would be notable at any time. Occurring at this particular juncture, it has to my mind special significance. In the first place, it is another striking example of Canada's coming of age as a nation. The post-war era has seen many instances of our new maturity and independence both in the domestic sphere and in international affairs. Here we have yet another area in which Canadians are ready to stand on their own feet and direct their own destiny.

All of us feel a sense of pride on this occasion—and rightly so. However, it is only fitting that we acknowledge the valuable assistance which our neighbours to the south have furnished to our endeavours in this field. Through the Joint Commission on Accreditation of Hospitals, American medical and hospital organizations have offered experience and guidance that have helped make an all-Canadian program possible. What is equally important, they have done so in the same spirit of friendship and goodwill which has characterized U.S.-Canada relations generally. In paying this tribute to your American counterparts, I am aware that Canadians have more than carried their weight in the work of the Joint Commission. This, of course, is typical of the co-operative efforts of our two nations, which always involve mutual responsibilities as well as benefits.

The introduction of hospital ac-

creditation on a purely Canadian basis is timely on another ground. As I hardly need remind you, it coincides more or less with the start of the new hospital insurance scheme across the country. In fact, this plan went into force in a sixth and seventh province—Ontario and Nova Scotia—on the very day that the accreditation program became effective.

What is the relation between these two historic undertakings? This, I suggest, can best be seen by noting one of the major emphasis of the hospital insurance plan. I am thinking of its stress on improving standards of performance in hospitals. We in government do not view the insurance plan as merely a fiscal project—simply a new method of paying for hospital care. We regard it primarily as a service program which should promote increasingly better quality and efficiency of the whole gamut of procedures centred in hospitals. We look at it as basically a health project which has the well-being of the individual patient as its prime objective. In other words, the plan is directed towards the same goal as has been set for the new all-Canadian accreditation program.

For our part, we have seen to it that the insurance program itself will foster the continuing improvement of hospital care. Special machinery has been built into provincial plans for this very purpose. But this machinery cannot do the whole job. A good deal of responsibility must still rest with the medical profession and hospitals. In fact, experience shows that a high quality of care can best be ensured by doctors and hospital authorities working together. This is essentially a professional matter, which should be handled as such. The onset of public hospital insurance in no way changes the situation. Governments are not going to dictate rules of procedure. While standing ready to provide technical advice on certain hospital problems, they look to the medical profession and hospital administrators to bear the brunt of this important activity.

It is obvious to me that what has already been done in the way of hospital accreditation has eased the introduction of the hospital insurance plan. Indeed, had it not been for this voluntary effort, the plan would face much greater problems in achieving efficiency of operation. Now that the insurance program is actually functioning, accreditation will assume an even larger significance. As an independent stimulus to good hospital practice, it will serve as a key support to the program's orderly and effective development.

In turn, progress in accreditation should be reinforced by the insurance scheme's impact on hospital financing. Since these institutions will no longer have to operate in the red, resources should be available to enable and encourage more and more of them to meet accreditation standards.

Frankly, it is in connection with the hospital insurance plan that I see the greatest significance of the new all Canadian accreditation program. The insurance plan is a distinctly Canadian project, tailored to our needs and conditions. It already has emphasis — and no doubt will develop more — which are unique as compared with arrangements in other countries, including the United States. This being the case, it is obviously important that our accreditation activities should be equally Canadian in their approach and responsive to these special trends.

As an example of the latter, I might mention the insurance scheme's stress on long-term care—the gearing of length of stay in hospital to medical necessity. Here is an area where the Canadian Council on Hospital Accreditation might well examine the realism of existing criteria. Among other things, it might ask itself whether further attention needs to be given to encouraging accreditation of chronic hospitals.

We in government are delighted with the development of a purely Canadian accreditation program. We welcome the fact that its initiation coincides so closely with the introduction of public hospital insurance. Here are two important health projects beginning more or less at the same time, independent yet complementing each other, and having the opportunity of growing together towards a common goal. To me, these are fortunate circumstances which are bound to contribute in a very real sense to the success of both undertakings.

As for the hospital insurance plan, I might take a moment to give you a brief rundown on developments to date. With the entry of Ontario and Nova Scotia on January 1st, the program now includes seven provinces and covers an estimated ten to eleven million Canadians. By the first of next July, all provinces are expected to be participating except Quebec and Prince Edward Island. In the latter, I understand that planning is going forward satisfactorily. Acceptance of the scheme has thus been widespread, fulfilling to a large extent our aim of a truly national program.

Another encouraging feature of the current situation is in the area of costs. In the case of the

*(Concluded on page 108)*

*L. to r.: Hon. J. Waldo Monteith, Minister of National Health and Welfare; Dr. A. L. Chute, Toronto, chairman of the Canadian Council; Dr. E. Thibault, Verdun, medical director, Verdun General Hospital; and Rev. Father A. L. M. Denis, o.m.i., Ottawa, executive director, Catholic Hospital Association of Canada.*

# Inauguration Ceremonies

THE all-Canadian accreditation program was officially inaugurated at a special ceremony held at the C.M.A. House in Toronto, Ontario, on January 17. Many distinguished guests, including the Hon. J. Waldo Monteith, Minister of National Health and Welfare, and medical and hospital officials came from both the United States and from across Canada to attend.

Appointed chairman of the Canadian Council on Hospital Accreditation was Dr. A. L. Chute, chief of paediatrics, The Hospital for Sick Children, Toronto, Ont. J. E. Robinson of the Winnipeg Children's Hospital is vice-chairman; Dr. E. Thibault, Verdun, Que., is past chairman; Dr. J. B. Neilson, Toronto, Ont., is treasurer; and Dr. W. I. Taylor is executive director and secretary. Honorary secretaries are Dr. A. D. Kelly and Dr. W. D. Piercey, Toronto, Ont. Dr. E. K. Hollis continues with the Council as consultant.

**Members Represented**

Representing the Canadian Hospital Association on the Council's board are Dr. A. M. Clarke, Moncton, N.B.; Dr. J. E. G. LaSalle, Montreal, Que.; Dr. J. B. Neilson, Toronto, Ont.; Rev. Father A. L. Danis, Ottawa, Ont.; and J. E. Robinson, Winnipeg, Man.

The Canadian Medical Association is represented by Dr. E. K. Lyon, Leamington, Ont.; Dr. D. A. Thompson, Bathurst, N.B.; Dr. N. N. Levinne, Toronto, Ont.; and Dr. B. H. McNeel, Toronto, Ont.

The Royal College of Physicians and Surgeons of Canada has Dr. A. L. Chute, Toronto, Ont.; and Dr. W. K. Welsh, Toronto, Ont., to represent it.

L'Association des Medécins de Langue Française du Canada is represented by Dr. E. Thibault of Verdun, Que. ■

*Among those attending the inauguration were Dr. A. D. Kelly, Toronto, general secretary, C.M.A.; Dr. John I. Brewer, Chicago, chairman of the Joint Commission; and Dr. John B. Neilson, Burlington, treasurer of the Council and commissioner of the O.H.S.C.*

*Dr. Edwin Crosby, Chicago, director, A.H.A.; Dr. John I. Brewer, Chicago, chairman of the Joint Commission; and the Hon. J. Waldo Monteith, Minister of National Health and Welfare, Ottawa, look over the charter.*

*Representing the Council's four constituents are (l. to r.) Dr. D. F. W. Porter, Vallée Lourdes, president of the C.H.A.; Dr. A. F. VanWart, Fredericton, president of the C.M.A.; Dr. R. M. Janes, Toronto, past president of the Royal College of Physicians and Surgeons of Canada; and Dr. Pierre Smith, Montreal, public relations officer, L'Association des Médecins de Langue Française du Canada.*

*Examining the new charter are (l. to r.) Dr. Kenneth B. Babcock, Chicago, director of the Joint Commission; Dr. W. I. Taylor, Toronto, executive director of the Council; Dr. A. L. Chute, Toronto, the Council's chairman; and Rev. Father H. L. Bertrand, s.j., executive director, Comité des Hôpitaux du Québec.*

*Surveyors for the Canadian Council on Hospital Accreditation are (l. to r.) Dr. K. E. Hollis, Toronto, consultant for the Council; Dr. D. D. Campbell, McGregor Clinic, Hamilton; Dr. J. J. Laurier, St. Joseph's Hospital, Trois Rivières and Sacred Heart Hospital, Cartierville; Dr. M. Langlois, Hôpital St-François d'Assise, Quebec; Dr. A. L. Swanson, University Hospital, Saskatoon; Dr. F. C. Bell, Red Cross Outpost Hospitals Committee, B.C.; and Dr. W. I. Taylor, Toronto, executive director of the Council.*

## administrative and legal aspects of

# Hospital Consent Forms

W. A. J. Farndale, B.Com., F.H.A.,
London, England.

### Part I

A PATIENT was once admitted to hospital with a strangulated hernia. Though the surgeon explained to this woman the necessity for an operation, and that her life depended on it, she adamantly refused her consent. The surgeon felt he could not allow the patient to die, so he anaesthetised her and operated without her consent. The patient recovered and although she probably owed her life to him, she sued him. She won her case as there had been a technical offence of assault and battery, but the law took a commonsense view and she was awarded one farthing damages!

When a patient is advised that an operation is necessary, it is customary for the patient to be asked to sign an "operation permit" or "consent form". The patient's signature is obtained for a consent form because it safeguards the doctor and the hospital against unreasonable litigation; it also safeguards a patient against an operation or treatment he may not wish to undergo.

#### Assault and Battery

A surgeon who is refused permission by a patient to operate, and yet in spite of the refusal carries out the operation has, according to the law in Great Britain, committed the legal offence of "assault and battery". The law in other English-speaking countries has many similarities.

In popular language "assault" is used to describe the legal wrongs of "assault and battery". Battery is the actual use of any unlawful force. Every battery includes an assault. Thus if A throws a stone at B and hits him, it is a battery; if he misses him, it is an assault. In legal language "assault" is limited to an act which causes reasonable apprehension of violence or use of force, such as aiming a gun at a person, or shaking one's fist in a man's face, or any threat of immediate violence provided it is something more than mere threatening language. "Battery" is the intentional application of force to another and even the least touching of a man in anger is a "battery"—and so also is an operation without consent involving as it does the direct application of force to a man's person.

*Assault: A civil wrong and a crime.*

An assault may be both a civil wrong (known as a tort) and a crime. A surgeon operating without a patient's consent may, therefore, be liable to be sued by the patient under the civil law for damages, or, in an extreme case, prosecuted by the police under the criminal law. He (and his hospital) may, therefore, be sued for damages in a civil court, and be also, perhaps, tried for a criminal offence.

#### Consent

Good defences to an action for assault, are either that there was consent, or that it could be justified. Evidence of consent is best recorded on a hospital consent form, and would "protect" the doctors, nurses and hospital against any action for assault. Consent to an operation must be given freely after a full explanation of the probable nature, character and consequence of the operation

It is worth noting that no doctor can carry out a medical examination at the instance of an employer, police official or any other person without the full consent of the patient. The consent given before an operation or treatment prevents a patient claiming for assault but will not prevent him claiming for negligence, and the consent form will not, therefore, protect the hospital against a claim for damages based on negligence.

*Express or implied consent*

Express consent is given in clear and direct terms, either orally or in writing. Express consent to an operation is usually obtained by asking the patient and/or the relative to sign the hospital's consent form or "operation permit". An express consent which would be legally upheld may also be given orally in the presence of a witness. In Canada and the U.S.A. it is customary to obtain a witness to the patient's signature on the "operation permit", but a witness is not required on the consent form in use in Great Britain. In Great Britain it is considered that the provable signature of the patient with the testimony of the doctor or nurse who supervised the signing, is sufficient without the form being witnessed.

Some operations are carried out under conditions of implied consent. Implied consent may be assumed as a matter of public policy when a patient is unconscious and an emergency operation is essential to preserve the life or health of the patient. An implied consent generally arises by silence taken with other circumstances as to warrant the presumption that consent has been given. Silence alone, however, does not necessarily give consent, nor can compliance be taken as consent.

Express consent, in writing, is, of course, the better evidence of consent because it is less open to denial. Wherever possible, therefore, a consent form should be signed before an operation.

*Volenti non fit injuria*

If a patient has given his consent to an operation the legal maxim, *Volenti non fit injuria* will apply. No actionable injury is done to a consenting party and hence he cannot make a claim. If two men consent to a boxing match, the loser, who may have been

*Mr. Farndale is deputy house governor and deputy secretary to the board of governors of The Bethlem Royal Hospital and the Maudsley Hospital (a post-graduate teaching hospital) in London, England. He is also a barrister-at-law of the Middle Temple.*

knocked down in the ring, cannot afterwards sue his opponent for damage for assault, as he had willingly consented to undergo the personal risk of being hurt by the other boxer! In the case of an operation there is the distinction, of course, that the patient does not consent to injury—all that he does is to consent to the operation, which he hopes will result in better health, but may carry with it a risk of not being successful. A patient who has given his consent to an operation cannot afterwards sue for damages if the operation is not successful, provided there has been no negligence and the doctor has not exceeded the authority given to him by the patient.

*Consent must be "real"*

At law, consent must not only be given but also it must be "real", *i.e.*, the person consenting must understand that to which he is giving consent. Unless a doctor explains the nature and extent of the operation, and the degree of risk involved, the patient may afterwards repudiate the consent form or operation permit on the grounds that he did not fully realize the meaning of the document the hospital asked him to sign. The wording of the consent form, therefore, usually makes it clear that the patient has been told and understands the nature and effect of the operation or treatment. In the rare case where the patient may have been the victim of false or fraudulent representations, his consent certainly could not be implied from the fact that he voluntarily submitted to the operation, and a written consent so obtained would not be valid legally. If any pressure has been brought to bear upon the patient by the hospital staff to undergo the operation, then afterwards, the patient may claim damages and declare that his consent was not real and it was obtained by undue pressure, inadequate explanation, or even by a trick.

Then again, the operation must be substantially the same as that to which consent was given unless the patient has previously consented to alternative operative measures. Thus in the absence of any prior agreement in the course of an operation where a more serious operation is found to be necessary, "consent" can only be implied where it is immediately necessary for preservation of life and health.

Where the operation or treatment carries with it unusual risks, written consent should always be obtained beforehand and to be an effective answer to a claim for assault the patient's consent must be fully and freely given, without force, fear or fraud.

**How Much Should the Doctor Tell?**

Where a patient is fearful or apprehensive it is a matter of good judgment for a surgeon or doctor to decide how much he should tell a patient about the risks of an operation or treatment. He has to keep a fair balance between telling the truth and maintaining constant reassurance to the patient, and he is justified in using his discretion as to how much it is proper to tell the patient about the risks involved. If, however, an inadequate or misleading explanation has been given, there is a danger that the apparent consent obtained will be held to be ineffective.

In practice, the surgeon or doctor will be frank to a responsible relative to whom he will tell the whole truth, especially if it is unpleasant, such as the impending death of the patient, or the probable loss of his eyesight. He will then be guided by that relative as to what extent he should disclose to the patient such distressing information. In such cases he would morally and legally be justified, when talking to the patient, in glossing over the risks of any operation or treatment.

A medical practitioner will use his discretion and may safely vary the standard consent form if, for example, he considers that it would not be in the interests of the patient's health for him to be informed of the exact nature of the operation or treatment, and the risks involved.

**E.C.T. Treatment**

In the case of electro-convulsive therapy (E.C.T.) many hospitals in Great Britain insert a clause in the consent form that the patient understands there are certain risks of injury inherent in the treatment and that notwithstanding those risks, he requests the hospital to administer this treatment.

In a recent case in London (Bolam v. Friern Hospital Management Committee 1957) in which a patient injured during E.C.T. treatment had been left a cripple for life, the hospital in its defence was able to say that the treatment was carried out with the patient's written consent, by which he accepted the risks of injury. The case, however, turned largely on whether there had been negligence in not using a relaxant drug for E.C.T. The patient failed in his claim for damages.

The hospital admitted they did not give warning of all the particular risks of E.C.T. treatment, but indicated there were some slight risks. Mr. Justice McNair, in summing up, queried how much warning of the risks should have been given and said that the jury might well think that a doctor, when dealing with a mentally sick man and having a strong belief that his patient's only hope was E.C.T., should not be criticized if he did not stress the dangers which he believed to be minimum, involved in that treatment.

To be legally correct a doctor should explain the nature of the occasional risks of E.C.T. treatment to a patient before he signs a consent form as otherwise it might be held that the patient did not really know to what his consent was given. In the case of a disturbed and fearful patient a doctor would morally be justified in not further disturbing such a patient who might be frightened away from treatment that would do him good, but a full and frank explanation of the treatment should be given to the nearest relative, whose consent is also required.

Lawyers in Great Britain say that it would be unwise, from a liability aspect, to dispense with a warning of the potential risks involved, but on the other hand, in the interests of the patient, some doctors and hospital authorities now sometimes over-ride the lawyers' views, even to the extent of omitting from the British consent forms for E.C.T. that "the effect, nature and risks have been explained". A good instance where commonsense prevails over undue legal rigidity!

**Safeguarding the Patient And the Hospital**

On the one hand, there is the moral obligation on the part of the hospital to explain to the patient beforehand the effect and nature of the operation, for his benefit, and to safeguard the patient against an operation he may not wish to undergo however desirable it may be on medical grounds. On the other hand, there is the legal obligation to obtain the patient's consent before the operation is carried out as a safeguard to the doctor

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*A student nurse tends an evacuee post-operative patient who is receiving a blood transfusion. Note especially-made clamp-on intravenous stand with bottle tied to it. Also note large paper bags for patient's belongings.*

# EXERCISE TEAMWORK 1

**Sister Hugh Teresina,**
**Lethbridge, Alta.**

AT 1330 hours (1:30 p.m.) one summer day last year, a sudden thunderstorm struck the city of Lethbridge. But civil defence must carry on regardless of weather conditions, so a few minutes later a telephone rang shrilly at the City Hall. Exercise Teamwork 1 was in progress and the chief of police was notifying civil defence director C. W. Chichester that a plane had crashed into a packed grandstand at Adam's Park. Medical care was required for over 200 injured. The civil defence medical director, Dr. F. Christie, and his deputy, Dr. G. Wright, were quickly notified and it was decided that the two Lethbridge hospitals must each prepare for at least 100 casualties.

This was a make-believe situation, so according to plan only St. Michael's Hospital was notified. The administrator, Sister M. Consolata, reported that the hospital was filled to capacity—it would be necessary to evacuate at least 50 patients to make room to care for the injured. Civil defence health services had previously designated Henderson Lake Pavilion as a suitable building for an improvised hospital in the event of disaster. Civil defence headquarters was therefore contacted and the following requested: radio communications, traffic guards, transport vehicles, stretcher bearers and welfare services.

These sections of civil defence had shared the planning for the exercise, and were standing by, and the actual calls did go through. By 1350 hours the mobile communications unit was staffed and ham operators were at their posts, city and auxiliary police were on traffic duty, requisitioned vehicles were on their way to the hospital, volunteer stretcher bearers were assembling and welfare services were being set up for the reception of the evacuees. Henderson Lake Pavilion, the reception centre, is on the outskirts of the city about one mile from the hospital.

Within the hospital, the order to prepare for evacuation of 50 patients was relayed to each department. The written disaster plan was immediately put into effect. Designated doctors were telephoned, as well as certain off-duty staff (this was a Saturday afternoon). Direction signs were posted and inside traffic guides appointed. On the nursing units, evacuation kits were readied and as soon as the medical officer decided on the patients to be evacuated, the nursing staff dressed them or prepared them as necessary. Ward clerks made out discharge lists, identification tags and discharge charts. Head nurses decided what medications must go with each patient, and checked that they were with his belongings as he left the floor. Discharge charts in brown envelopes were pinned to the patients' shirts.

These "patients" were school boys and girls who had been chosen to play these rôles and had taken their places in hospital beds before the exercise began. In a real evacuation of patients, the very ill would not be moved. However, to gain the maximum experience from this exercise a cross-section of the actual patients in hospital at the time was designated for evacuation. It included an eclamptic mother and her newborn babe, a cyanotic child in a croupette, a patient on a Stryker Frame, a fractured femur patient hurriedly taken out of traction and prepared for transport by a Tobruk splint, a fresh post-operative patient with blood transfusion running, two isolation cases, two psychiatric patients, besides other less difficult ones. The 50 "patients" were distributed among the six nursing units so all staff had an opportunity to participate.

Special mention must be made

*Sister Hugh Teresina is director of nursing service at St. Michael's General Hospital, Lethbridge, Alta., and is chairman of the hospital's disaster committee.*

of the volunteer stretcher bearers. Civil defence was unable to supply stretcher bearers in adequate numbers, so when the hospital disaster plan was originally being drawn up, the local Council of the Knights of Columbus was approached. The members offered their services and they proved to be a very interested and enthusiastic group. They needed both interest and enthusiasm when a simulated power failure occurred shortly after the evacuation started! About two-thirds of the 35 stretcher cases had to be carried down the stairs.

A new technique in the handling of stretchers was tested. This was a team approach, with the strecher bearers divided into loading teams, carrying teams, descent teams and van-loading teams. The short carry conserves man-power and saves time but considerable training and orientation is essential beforehand. It is important that one member of the hospital staff be responsible for the general supervision and direction of the stretcher bearers.

Even with the loss of elevator service the 50 patient evacuees were out of the hospital building in one hour and three minutes after the notification of disaster. They had been taken to the cafeteria (evacuee pool) and screened before being consigned to the various vehicles which were waiting at the nearby freight entrance. Use of this east entrance for "out" traffic and the south ambulance entrance for "in" traffic in our disaster plan, prevents traffic problems on the hospital grounds. ("Exercise Teamwork 1" tested only the evacuation part of our disaster plan. We had tested the reception part in "Exercise Reception 1" the previous year. At that time, 29 simulated casualties had been received, sorted and allocated to resuscitation, x-ray, burn, surgical or minor injury areas.)

Auxiliary police of Lethbridge civil defence acted as very efficient traffic guards. Traffic within the hospital was controlled by traffic guides who were staff members familiar with the hospital. Large printed signs also proved helpful. Here we learned a valuable lesson. In time of disaster there will be many outside workers, and their rôle must be plainly indicated by armbands or some other distinguishing mark. Traffic guides themselves must be distinguishable so that they may carry out their duties with authority. During "Exercise Teamwork 1" two stairways were designated as *up only* and *down only*. This idea had originally been questioned by many, so the traffic guides assigned to these areas had some difficulty in receiving co-operation. In the criticism sessions held after the exercise, it was decided that key personnel should not be made to adhere to stairway restrictions. Time should not be sacrificed, as long as there is no interference with essential traffic on the stairs. Another lesson learned was that wherever possible, signs should be printed on both sides, placed high and protruding from doorways. Those posted on walls cannot be seen from a distance by persons coming down a corridor.

During the exercise there was a complete communications network in operation, linking the Civil Defence Mobile Control Unit with the hospital, the reception centre and mobile cruisers. Within the hospital, communications were hampered by lack of a public address system. Although careful planning had sought to relieve the switchboard of unnecessary calls, the operator was almost overwhelmed at times. However, a good messenger service was maintained. An information centre was set up

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*A cardiac patient being prepared for evacuation. Note identification tag (name and destination) tied around neck. Brown envelope pinned to clothing contains patient's Kardex card summarizing current treatments and medication, and regular discharge slip containing admitting office information and nurse's discharge notes.*

*A dry cleaning truck used to transport evacuated patients.*

# Hospitals Must Be Really Clean

## strict housekeeping and aseptic practices go hand in hand

**Thomas Gibson,**
**Toronto, Ont.**

THE hospital today is a scientific organization in which one may find concentrated technical facilities, skilled personnel and qualified medical and surgical staffs. All departments in the hospital are important, and they are inter-dependent one upon the other. Among these is the vitally important housekeeping department, which is concerned with maintaining clean, healthful surroundings for patients and staff members alike. The housekeeping activities are performed and felt in every department of the hospital.

Now, what exactly is housekeeping, and how does it fit into the over-all picture of hospital organization?

Housekeeping establishes the climate for all activities in the hospital. It is concerned with keeping the premises, equipment and facilities clean and orderly at all times. This might appear to be simple until one stops to think about the many kinds of services, equipment, fixtures and properties within the hospital. Order, safety and cleanliness are essential to a healthy environment. The housekeeping policy has a direct effect on the health and comfort of the patients, doctors, hospital personnel and visitors. Good housekeeping certainly has a salutary effect on the morale of the patients, hospital personnel and visitors. Among the psychological factors which must be entertained in the over-all operation of the hospital is the engendering of confidence in the public. If a person walks into a hospital from the street and finds gleaming floors, shining walls, and evidence of cleanliness all about, he is naturally going to be confident that, should he require the services of that hospital, he would have no qualms or doubts about being admitted to such a hospital. Dingy floors, dull looking walls, would have the opposite affect. Good housekeeping gives to the public a feeling of confidence, but it also reacts favourably upon the patient who feels much more secure when he is assured by personal observation that care is being given to keep the hospital *really clean*.

Hospital administrators are keenly aware of costs. They must also be concerned with *efficiency* which would affect the economy of the operation of the hospital. Good housekeeping can contribute to the economy of the hospital operation in various ways. The selection of the right type of cleaners and surface treatments will safeguard the surfaces. Beautiful and expensive floors will look as they were originally intended to look, and will not be marred by alkali inroads. This applies also, of course, to attractive walls. Hospitals provide safety devices to help eliminate accidents, and the maintenance program should consider the overcoming of slipperiness on floors. The maintenance of clean hospital surroundings will decrease the turnover of personnel, and will increase their efficiency. Everybody likes to work in a clean environment as it is much easier to act and feel cheerful and alert when one is working in a safe, pleasant place. As mentioned above, good will and public relations are also improved.

### Housekeeping Functions

Hospital housekeeping consists of taking full responsibility for the physical cleanliness, maintenance and appearance of the inside of the building, its furnishings and equipment. The use of these functions permits some exceptions under given circumstances. For example, responsibility might have to be given to departments other than housekeeping if:

1. Specialized skills and training which can be supervised and assessed properly only by someone having special knowledge of these skills are involved.
2. Control of techniques of patient care would be in danger.
3. The housekeeping functions would interfere with the timing of work of other departments.

However, housekeeping is a part of the total procedure which cannot be divided, and so the total hospital procedure cannot be judged without considering the housekeeping aspects.

### Infections

Infections in hospitals naturally fall within the realm of the bacteriologist and other interested medical staff, but consideration of the housekeeping rôle in these days would be of no purpose unless it included the understanding of the scope of the infection problem. It is generally recognized now that our hospitals are currently waging war against one of the most bothersome germs ever to be encountered in the long struggle for aseptic conditions. These trouble-makers are by-products of our antibiotic age. We have freely used penicillin and many of the other "wonder drugs" and were confident that they were effective against the infections that bother us. However, a particular type of strain of staphylococcus aureus, sometimes called "golden staph" from its colour in the laboratory culture, is appearing in epidemic proportions as the cause of abscesses, boils, infections of the urinary, digestive and respiratory tracts, and also of fatal pneumonias. The very young and the very old have been principal victims of staph, but it has affected practically every age group in be-

*Mr. Gibson, president of Thomas Gibson & Company Ltd. gave this address at the Ontario conference of the Catholic Hospital Association, held in October, 1958.*

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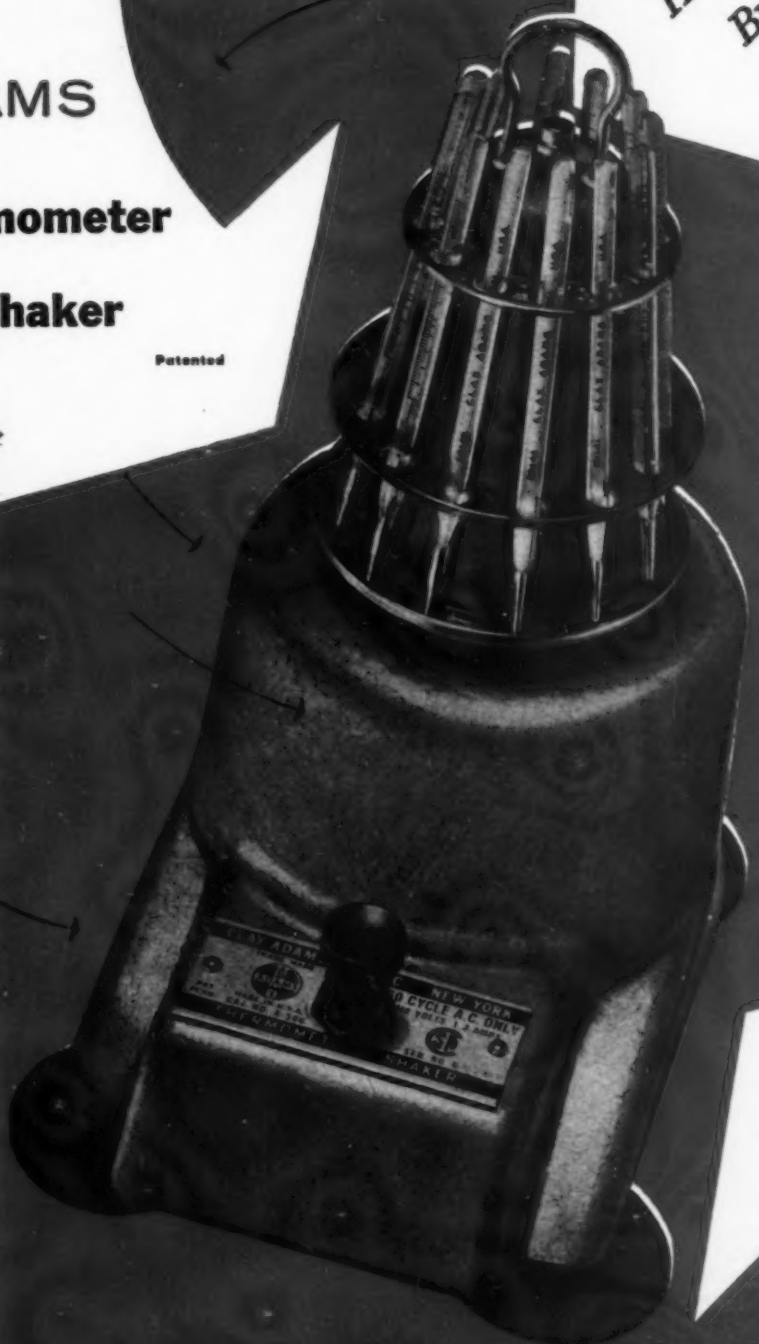

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tween. This infection is tenacious, frequently lasts a long time, and may cross-infect more people than might be suspected. A nursing infant may pass this infection to the mother's breast which becomes abscessed, or skin eruptions and pneumonia later appear in the infant or the mother. Then at home, someone else in the family, in helping care for the baby, gets a boil which is soon surrounded by smaller boils. Meanwhile, all members of the family contract this bug in one form or another, and this vicious cycle can go on for some time. Single abscesses have been known to drain for a year, and in referring to a recent article in *The Saturday Evening Post* concerning staphylococcus, you will find that in one instance a mother who contracted a hospital infection when her first child was born, brought the germ back to the same hospital more than a year later, when returning for the birth of her second baby. This promptly started another epidemic.

We know that the staph germ does not spread through a neighbourhood like measles or chicken pox, but it lives and thrives best in the intimate contacts of the hospital or home. We do not intend here to go into all the difficulties presented by staph or other organisms, as you are, no doubt, completely familiar with them. We are more concerned with their elimination, or more properly, their prevention, and how the housekeeping program of the hospital takes a definite rôle in combating these infections. One might think that control of infection is outside the sphere of housekeeping responsibility, and so it would be, except for the fact that real asepsis can only be obtained with the co-operation of the housekeeping department.

If a satisfactory solution to this problem is to be achieved, a united effort must be made by all, and we feel that bacteriologists would most certainly agree.

There must be a real understanding of the scope of this infection, and an educational program approved by the bacteriologist for developing ways and means to combat it should be instituted. When such a system is organized vigilance should never be relaxed. Some progressive hospitals have already gone to great lengths in instituting campaigns against staphylococcus and other organisms. These hospitals have organized committees to investigate every case of surgical and medical infections, contaminated nurseries have been temporarily closed down, and at times entire buildings have been closed. Infectious patients have been isolated, their visiting privileges have been curtailed, and of course, their laundry has been handled in separate sterile bags. Wound dressing procedures have been more critically assessed, to the point where special nurses are sometimes detailed to do that particular job. Surgeons who have been using hexachlorophene soap for a number of years have fallen into the false sense of security in employing short term scrub-up. Now many hospitals are having the surgeons scrub for ten minutes, using a hexachlorophene soap. Here it might be well to point out that all hexachlorophene soaps are not the same. In some inferior grades, hexachlorophene is contained in cheap soaps, whereas hexachlorophene or G-11, in justice to the operating staffs, should be incorporated only into smooth, bland, neutral soap bases to prevent any possibility of skin rashes or dermatitis appearing on the arms and hands. A fine surgeon could possibly be put out of action as a result of sore arms, and we feel that surgeons should be given the highest quality of soap that can be obtained. Some hospitals employ cream based hexachlorophene as opposed to soap based hexachlorophene. The cream carries the hexachlorophene down into the pores by its penetrating action, so that it attacks the resident flora as opposed to the transient bacteria, and the hands and arms are left smooth and pliable. This, however, is a matter of choice.

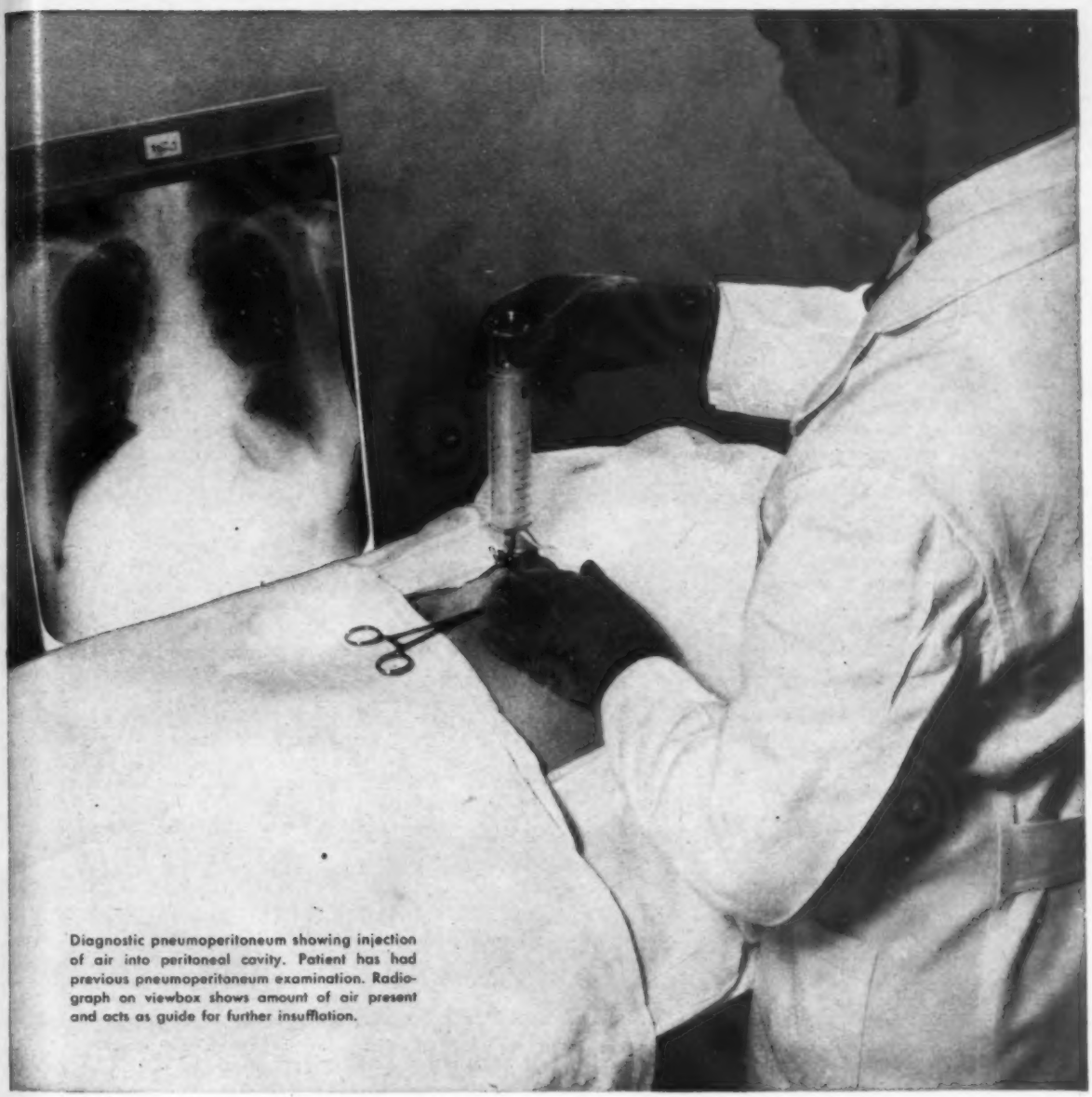
Some hospitals have posted "No Admittance" signs on rooms or wards, with the qualification "Positively" to keep out all but the personnel essential to the care and treatment of the infected patient.

Also it is extremely difficult to control infections when people are walking in and out of the operating suite several times during the course of an operation. All people with skin infections should remain off duty until the lesions are cleaned up. This would apply to surgeons with scheduled operations, and surgery should be postponed if the patient has an infection, except in emergencies. Now, also in operating room procedures a filter type of mask may be adopted, and both masks and caps changed between operations. Absolutely no one is allowed in the operating room, unless he first changes into scrub suit and hospital shoes, and we suggest that he stand or wipe his feet on a mat soaked in a disinfectant solution before entering the operating room.

Infectious patients, of course, are operated on in a special operating room, and if possible, at the end of the day. The operating room may then be mopped with a disinfectant, and plenty of time can be allowed for it to air out before the next operation. Strict housekeeping and aseptic practices should be encouraged in other parts of the hospital as well, each nurse being required to sponge her hands with alcohol before and after treating an infected patient. This, of course, is protection for the nurse as well as for non-infected patients in her care. The ultimate in cleanliness would be to have the workmen also wash, at least with hexachlorophene soap, before going on duty.

No competent housekeeper would allow dry mopping in this day and age because this stirs up germ-laden dust, nor should dry vacuum cleaning be done. Bacteriostatic dust control chemicals which are applied to mops should be used to keep the dust, with its germ carrying possibilities, on the floor. Nursery linens are now steam sterilized, as are ordinary linens. Under normal laundry washing conditions high temperatures will render the linens germ-free, but they should be transported from the laundry to the floor of use in sterile bags. There are various schools of thought on the sterilization of blankets, as these are washed at low temperatures — temperatures which do not permit the killing of bacteria. Studies have been recently undertaken, results tabulated, and successful programs carried out where the laundry managers co-operated with the housekeeping department by treating blanket laundering in the final rinse with bactericide which has a residual effect. A blanket has a wide surface on a patient's bed, and infections can start up almost immediately. Wet steam autoclaving will sterilize. Within a short time, however, re-contamination may occur unless a germicide with residual action is employed. As residual effect bactericides are new, we can only say that we will provide more information on them to anyone who might be interested.

No matter how careful and how thorough the procedures, hospitals cannot ever consider the problem of infection permanently under



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### Education and Training

It is surprising to find that in spite of the tremendous need for education and training in hospital housekeeping, this vital aspect of hospital management has often been overlooked. We cannot blame hospital administrators in view of the difficulties involved in obtaining competent and interested labour. Doctors, nurses, dietitians, technicians, are all required to meet high standards in the performance of their duties, but the hospital housekeeper has been hampered by a misunderstanding of her importance. Hospital executives in charge of hiring workers have often acted on the assumption that nearly everyone knows how to clean. This is not true, of course, and there are methods now used which must be explained to the inexperienced worker. Any interested hospital housekeeper may get expert advice on all phases of hospital housekeeping from reliable companies who manufacture products for the cleaning and maintenance of hospitals.

One of the greatest weaknesses in maintenance programs, particularly with reference to sanitation, is the fact that too often responsibility is not definitely defined. In other words, a worker sometimes does not know exactly what is expected of him. When we find an unsanitary area, it means somebody slipped because he did not know that he was responsible, or to whom he was responsible. Let us make a recommendation that each worker's responsibility should be clearly understood. No organization will be effective unless the responsibility is understood. If responsibility is understood, one can at once set out the operation method and methods which will be required to maintain real standards of cleanliness.

1. Have the standards of cleanliness definitely established.

2. Investigate your own hospital and select the methods which will best result in high sanitation levels for your hospital.

3. Make sure that periodic inspections, and sometimes surprise inspections, are being maintained.

### Training Workers

We have a responsibility to the patient, but we also have a responsibility to the worker. The caretaker must be taught that caretaking means taking care. He must be taught to protect himself in the hospital from the disease and infection that surround him in his daily work, and this should be fully explained to him as the idea is to protect both the patient and the worker. The hospital has an obligation to each. The members of the staff should understand what contamination is, what cross-infection is, and how it might affect them and the patient, and what to do about it. In most hospitals nowadays will be found people who speak various languages, and sometimes a housekeeper finds it most difficult to try and get each person in a polyglot group to understand just what they must do. Our experience has shown us that to tell a person what to do is not so effective as to show him. This can easily be arranged by a trained supervisor, by one of the more intelligent workmen on the staff, or advice may be obtained from your supplier of cleaning supplies, who will be able to give you some tips on this problem. To translate reasons why a thing must be done is a little more difficult but it may be done by seeking out leaders in the various ethnic groups in your town or city. The worker might belong to a parish, or he might have some other religious affiliation, or there might be a local society or club composed of people of his own nationality to which he might belong. It would be worth exploring any or all of these avenues. A short telephone call will generally find someone who speaks English, as well as his own language, and who would be interested enough and capable of speaking to the worker and explaining to him why he must be particularly careful when working in a hospital because of the danger of infection or cross-infection, not only to the patient but to himself. The practice of calling upon a worker's priest, minister, or club officer has been followed in many hospitals at our suggestion, and excellent results have been obtained. Psychologically also, a worker must feel that he is needed, and that he is important. A pat on the back, a word of commendation or appreciation will often do wonders with an employee who might appear on the surface to be disinterested.

### Organization

No matter what the title is, a hospital large or small should have an executive housekeeper. In many hospitals this could be the assistant superintendent. She should be responsible to one person only, the administrator. The housekeeper should not be responsible to several people, as she will find herself being pulled apart by various extraneous forces. She may have problems which will affect others, and she may ask their advice on various problems. The effectiveness of an organization in terms of maintenance, cleanliness, high sanitation levels, and in the bacterial warfare, will only be as strong as the housekeeper. She will have to be able to organize, she must be able to plan, she should be able to analyze, and perhaps be somewhat of a psychologist, but most of all she must be able to supervise efficiently and to exercise diplomacy. She should be a little bit of a salesman for she will have to convey her ideas and methods, and her understanding of the problems to her administrator, and she will also have to convey her ideas and specifically explain them to the workmen who are under her jurisdiction. To the above, we must add that she should be a teacher, because unless her employees are properly trained in methods of operation, the total effort will be wasted. In a large hospital, of course, the executive housekeeper will have to delegate authority to supervisors, and they in turn should only be responsible to her so that the chain of authority should run this way: the administrator is in complete charge of the hospital, the executive housekeeper is in complete command of the housekeeping services, and the supervisor should report to her, and the workers should report to the individual supervisor. In other words, each has a responsibility to only one person.

As we stated before, it should be apparent that any workman has the right to have his duties defined. He has the right to know what he has to do, and how he is to do it, and he certainly has the right to know to whom he is responsible. There is little chance of success if this basic structure is not followed.

### Specialized Methods

The training in aseptic techniques will be imparted, of course, by the professionally trained personnel—nurses, doctors, laboratory technicians—and if contamination problems have been recognized and steps are to be taken to combat them, it follows that controls must be established—for the entire hospital staff, for visitors with any relationship with patients, and for the housekeeping department,

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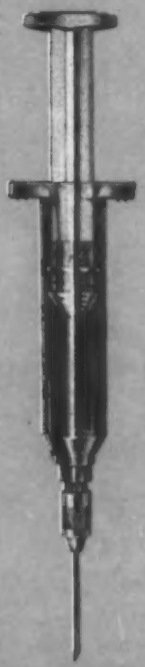

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1. W. Paul Havens, Jr., M.D.: Etiology and Epidemiology of Viral Hepatitis, The Journal of the American Medical Association, November 2, 1957, page 1091.

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**Housekeeping**

*(Concluded from page 60)*

of course. There must be no leakage through carelessness. We refer you here to *The American Journal of Nursing*, March 1958, to an article entitled "A Program to Control Staphylococcal Infections". The authors state:

"The dissemination of infected materials from the floor into the air must be guarded against. Ideally, a disinfectant should be used on the floors and walls throughout the hospital, but at present this is done only in the operating room and in the communicable disease unit." This does not necessarily apply now as there are bactericides with residual effect, that is, they maintain their bactericidal action for some days, which may be used to scrub throughout the hospital (including O.B. and O.R.), and as well there are cleaners containing bactericides which augment and make this practice much easier. (Here we must note that any bactericidal cleaners, while effective against organisms, should not have a destructive effect upon the surfaces. For example, cleaners with high alkaline content, or cleaners which operate in the acid area of the ph range, cleaners which will be safe on acid sensitive floors.)

Referring again to the article mentioned above—cleaning in the wards was arranged so that it did not occur just before, or during the time when the dressings were being changed. Bacteriostatic chemically treated dust mops, instead of push brooms which stir up the dust, were used before the wet mop—window sills, pipes, doors and radiators are wiped with a moistened cloth, again not at the time of dressing changes. These cloths were moistened with a potent bactericidal agent for the destruction of germs, and featured a residual action which would keep the surfaces germ-free for some time. Mop heads and scrub water should be changed frequently, and always after scrubbing a badly contaminated room or area. Soiled mop heads should be washed so that a soiled mop will not be used to re-deposit dirt on the floor.

Many surfaces appear clean but nonetheless harbour bacteria. We cannot be deluded into believing that complete asepsis has been carried out just because a building looks clean; but, on the other hand, it is generally found that where good cleaning methods are being used systematically, the sanitation practices of the hospital will be good. In other words, people who are good housekeepers, just do not stop at being good housekeepers—*i.e.*, merely seeing that surfaces are clean. They are interested in doing a complete job, and this will include the destruction of bacteria.

I would like to outline here a comprehensive but simple system for the control of cross-infection, which can be followed by any hospital housekeeping staff:

1. First of all, you need a specific hospital bactericide to be used wherever bacterial contamination exists, or is suspected. In particular, it should be used in operating rooms, obstetric rooms, and infectious areas for complete cleaning and disinfecting of all surfaces. It should have the following qualities. (a) It should be active against a wide spectrum, and in particular against the well known resistant strains that are found in hospitals. (b) It should be non-injurious to fragile surfaces, such as floor coverings, walls, et cetera. (c) It should have some anti-bacterial residual effect. (d) It should act rapidly in the presence of organic matter.

2. Where bacterial and alkali-resistant cleaner is to be used regularly throughout the hospital with particular reference to floors, the cleaner should be a proven bactericide for the common infectious strains, and in addition, should be safe for both acid sensitive and alkali sensitive floors.

3. The next step in comprehensive control of cross-infection is to reduce as much as possible the transmission of infection through air-borne bacteria. Air sanitizing sprays are available in bulk and in aerosol forms for this purpose.

4. A further step in reducing the incidence of air-borne bacteria is to prevent the agitation of dust from floor surfaces. Dry mopping is out completely. Where sweeping is necessary, bacteriostatic dust control chemicals are available for use on dust control push brooms.

5. Many cross-infections occur through the transmission of bacteria from person to person, or from person to implement to another person. This means that not only surgeons, but all hospital personnel should be given the benefit of regular daily use of quality hexachlorophene in soaps or creams.

These operations should be used in direct proportion to the thoroughness of the results desired. *Hospitals must be really clean.* ■

**Stopping Staphylococcus**

At the sixth annual Symposium on Antibiotics, held last October in Washington, D.C., it was reported that two antibiotics are apparently effective against staphylococcal strains. In two years of clinical trials with vancomycin, no resistant staphylococcus bacteria were encountered. And dramatic results were achieved when the drug was administered to 30 patients, cases in which other antibiotics had failed. A second antibiotic—kanamycin—was presented as a highly effective bactericidal agent. In the *New England Journal of Medicine* it is reported that kanamycin has been found "to have an inhibiting action against most staphylococci that are penicillin-resistant" in the treatment of 25 severe and acute infections in adults.—*Public Health Reports, U.S.P.H.S.*

**The Extension Course in**

## Hospital Organization and Management

All those interested in enrolling in the 1959 class of the extension course in hospital organization and management should submit applications not later than March 31st. The course commences in early September. Because the demand for enrollment continues to be heavy, assurance can not be given that applications arriving late will be considered.

The two year program is now in its eighth year, and the certificate of graduation given by the Canadian Hospital Association has been granted to 294 persons. Those enrolled in the course spend eight months each year studying lessons at home and preparing assignments. This period is followed by an examination and a four-week intramural summer session at a specified Canadian university.

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(Advertisement)

# Why latex foam is the IDEAL MATTRESS FOR HOSPITALS

*by Dr. Norman Grace, Research Centre*
*Dunlop Canada Limited, Toronto.*

Any of the many hospitals in Canada which have switched to Foam Rubber Mattresses will give you the answer to the statement "Why Dunlop Latex Foam is the ideal mattress for hospitals" (see page 39 "Problem of the Mattress in Cross-Infection"). On inquiry, Hamilton General Hospital will give you the following reasons why they made the decision gradually to convert all their spring mattresses to foam rubber. They stated:

"(a) We find that foam mattresses are easier to clean, the ticking can be removed for washing if and when required.

(b) The repair of both the ticking and the mattress core is a relatively simple operation.

(c) Damage to the core by burning, acids, or immovable stains can be quickly repaired by cutting out the affected part and replacing same with materials provided by the manufacturer.

(d) Because of the lesser bulk of a foam rubber mattress, we find it can be easily handled by one person, whereas the regular spring mattress, because of its weight and bulk, requires the attention of two people.

(e) We have found that patient reaction to foam rubber mattresses, almost without exception, is very favourable.

(f) It has been our experience of late that the original cost of the foam rubber mattress is becoming very competitive with the cost of a spring mattress."

Fort William Sanitorium, who first installed Dunlop Foam Mattress in 1935, still have much of the original foam rubber in use after over 25 years of use. In certain cases, where portions of a mattress have become worn, they have cut out the worn parts and cemented together the remnant good portions, making for a negligible cost, two mattresses out of three worn mattresses. Fort William Sanitorium's 1935 investment in installing Dunlop Foam Rubber Mattresses has paid dividends time and again.

## Patient Comfort

Any individual who has slept, for any length of time, on a good quality firm foam mattress, will invariably praise foam rubber. We have found that the strongest supporters of firm foam rubber mattresses are persons with back ailments, sufferers from arthritis or the chronic bed-ridden case who, prior to lying on foam, suffered from bed sores. They are supporters with good cause, as a natural firm foam rubber mattress gives more even support than any other type of mattress can possibly give.

## Economy

Regardless of the quality of spring mattresses, experience indicates that a generous life without repair for a hospital spring mattress is eight years.

Under a severe durability test, foam rubber mattresses proved to be almost indestructible, whereas twenty-one out of twenty-two top quality spring mattresses tested, failed. Constant use of a spring mattress in the gatch position is a more severe test than the above durability test. No spring mattress will stand up indefinitely to such usage. With a foam rubber mattress, on the other hand, the gatch position puts little additional strain on the mattress.

## Hygiene

All hospitals are giving a great deal of consideration to the growing danger of in-hospital epidemics caused by Staphylococcus aureus, some of whose strains are resistant to most antibiotics.

Dunlop latex foam is substantially germ-proof in character. It provides no nutrient material on which germs can live and indeed, it possesses a marked antiseptic action which is sufficient to kill most germs soon after they come into contact with it. Only more resistant germs are not killed. These cannot multiply on foam rubber, but some of them may remain there in dormant condition and be capable of multiplying should they eventually reach a more suitable environment. It is, therefore, generally unnecessary to sterilize a foam mattress filler, except when it becomes contaminated with physiological fluids or when contact with highly resistant germs is suspected.

## Allergies

Further advantages of foam latex mattresses of a general nature are their freedom from allergenic materials, and the fact that they will neither mildew or harbour vermin.

We are vitally interested in assisting hospitals to cut budget expenditure by installing foam mattresses; also, that hospitals give to their patients the most hygienically comfortable mattresses it is possible to manufacture. For full information on Dunlop Hospital Mattresses, write to Dunlop Canada Limited, Foam Division, Don Mills P.O., Ontario.

# Changes in the Dietary Management of Disease

A. Rapoport
M.D., M.A., F.R.C.P. (C),
Toronto, Ont.

AS a physician interested primarily in metabolic diseases, I have a very close liaison with our hospital dietitians. Indeed, it is hardly an exaggeration to say that without their continued assistance, I would find my practice of medicine extremely difficult, if not impossible.

Here I hope to deal not only with changes in the dietary management of disease, but with innovations in it and, in some instances, with the rôle of diet in preventing disease. From the viewpoint of progress, it is fortunate that the choice of diets in treating disease changes as it does. Mistakes may be made, but the fact that changes are taking place means that the mistakes are recognized, and, we hope, improvements made. To this extent, the honest nutritionist (and each physician is in a sense a nutritionist) differs greatly from the food faddist who makes a cult of his particular interest in diet, be it yoghurt or spinach, and shares with other cultists the unfortunate attribute of singular resistance to change.

Some of the dietary innovations I would like to discuss are the results of a more precise localization of the biochemical and metabolic abnormalities in certain diseases than was possible before. As examples of this, I will deal with three paediatric conditions.

The first of these, known as galactosemia, is an inborn and hereditary error in the metabolism of galactose, a simple sugar of the monosaccharide class. The symptoms of this disease manifest themselves shortly after birth, and are known to be causally related to the ingestion of milk or galactose. Afflicted infants usually appear normal at birth, but after a few days of milk ingestion, develop vomiting, diarrhea and drowsiness. In severe cases, the disease is often fulminating and death may occur in the neonatal period or soon after. If the clinical condition extends beyond a period of four to eight weeks, one can usually detect evidence of mental retardation and cataract formation in the eyes. Other features include enlargement of the liver and spleen and osteoporosis or rarefaction of the bones. The biochemical defect that has been isolated here has to do with the conversion of galactose to glucose. In normal individuals, this conversion occurs rapidly, but in these infants there appears to be an absence of the enzyme necessary for this conversion to take place. Therefore, galactose accumulates in both the blood and urine and very often there is a low blood sugar or glucose level. Milk is especially harmful for these infants, because lactose which is the main carbohydrate of milk is split, in the intestine, into its two component monosaccharides, galactose and glucose, thus exaggerating the defect.

One of the striking features of this disease is the remarkable improvement which occurs when the patients are placed on galactose-free diets. If the disease is not too advanced, all the symptoms may regress with dietary restrictions only — one may observe rapid weight gain and return of liver and spleen to normal size. Galactose-free diets can readily be supplied to these infants, for there are a number of milk substitutes, such as soybean preparations, available. These substitutes are compatible with normal growth and development.

A second condition is called "idiopathic hypercalcemia in infancy". All cases have begun in the first year of life, usually with loss of appetite, vomiting, constipation and failure to gain weight normally. Most cases have one or more of the following features: excessive passage of urine, occasional spikes of fever, high blood pressure, denseness of bone and mental retardation. Characteristic chemical changes are a rise in the level of serum calcium and blood urea. There is a suggestion that this disease may be due to excessive intake of vitamin D. Possibly a result of the free provision of vitamin D in the United Kingdom under the National Health Scheme, the disease has occurred more commonly there over the past decade or so. However, too much vitamin D is not the sole cause of this disease. The disease has occurred in children who take only normal amounts daily. Therefore, it may be due to an enhanced sensitivity to the vitamin on the part of these infants.

The chief methods of lowering the serum calcium are a low calcium diet and the use of Cortisone or one of its derivatives. The low calcium diet is the mainstay of treatment. This can be in the form of a low calcium milk, such as may be produced by treating cow's milk with calcium-free ion exchange resin. If the disease is allowed to progress untreated, calcification occurs in several organs, including the heart, kidneys, lungs and stomach. The efficacy of treatment depends upon the stage of the illness at which it is given.

The third condition is known as phenylketonuria. It is estimated that about one half per cent to one per cent of all patients in mental deficiency hospitals are there because of this hereditary disease. The defect in this disease appears to be a block in the conversion of the amino acid phenylalanine to tyrosine. Thus phenylalanine accumulates in the body. Its derivatives also increase in quantity, notably phenylpyruvic acid. Patients with this disease show varying degrees of intellectual impairment. Usually, it is severe, amounting to idiocy or imbecility. In addition, often a slight reduction in stature and in head measurements (when compared with normal averages) result.

Dietary management consists of providing a phenylalanine-deficient diet. Now this can only be

*(Continued on page 66)*

*Dr. Rapoport, with the Toronto Western Hospital, gave this address at the O.H.A. convention, October, 1958.*

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done by using synthetic diets such as pure amino acid mixtures from which phenylalanine has been excluded. Also, a properly supplemented phenylalanine-deficient casein hydrolysate has been used. The results of phenylalanine restriction in this disease indicate that children younger than two to three years may be remarkably benefited by such treatment. If they are older, the results are difficult to evaluate, but apparently improvement has not been as marked.

These three paediatric conditions, then, illustrate the scientific application of nutrition to the management of diseases of which biochemical defects have now been accurately isolated.

Generally speaking, if a disease is associated with an excess of some particular substance in the body, the physician has two choices in attempting to treat the condition. He may decrease the intake of the particular substance, or he may increase its elimination from the body. Decreased intake as a means of disease management may fail for at least two reasons. Firstly, in some instances, in a diet that is deficient in a particular substance, the food may be practically all synthetic, and is therefore tasteless. Hence, the diet is not likely to be followed for any length of time. For example, Wilson's disease is a rare ailment associated with an excess of copper in the body. Because copper is found almost everywhere, it is impossible to devise a natural diet that will be sufficiently low in copper to be helpful. Therefore, most of our treatment has been directed toward eliminating excess copper from the body. Another example might be kidney disease, where frequently the level of potassium in the blood climbs to undesirable heights. It would be very helpful to have a diet low in potassium and yet adequate in other constituents. However, once again potassium is found in most food stuffs and a low potassium diet is a synthetic one, and therefore unappetizing. Once more, then, we are driven to techniques of eliminating excess potassium from the body—such as by the artificial kidney.

Decreasing the intake of a particularly harmful constituent may fail, too, if the body is capable of synthesizing, on its own, the same constituent from simpler precursors. One example of this occurs in gout, a well-known disease recognized for many centuries and characterized by a particularly painful and disabling arthritis. It is known that gout is associated with an excess of uric acid in the body. Uric acid, in turn, is the breakdown product of a constituent of nucleoproteins called purines. It was thought that a low purine diet might help the sufferers of this disease, but in practice such a diet has not been very effective because the body is able to synthesize purines from simpler precursors and therefore does not depend on the intake of purine in the diet to maintain the high levels of uric acid. Another more recent example of a diet based on this principle is the low cholesterol diet advocated by many in the treatment of diseases associated with arteriosclerosis. Once again, this diet has proved ineffective because cholesterol is manufactured in the body from simpler substances. Therefore, the high cholesterol level in the blood need not be dependent upon cholesterol in the diet.

Another innovation I should like to deal with is in the treatment of steatorrhea. This disease implies fatty diarrhea or the excess loss of fat in the stool. However, sufferers from this disease may eventually lose all the important dietary constituents, including nitrogen, carbohydrate, minerals, vitamins and water, as well as fat, in their stools. The symptoms of steatorrhea may occur with other diseases involving the bowel, such as regional ileitis, or they may occur in the absence of known disease. Then it is called idiopathic steatorrhea or sprue in adults and celiac disease in children. This disease, if severe and untreated, can lead to rapid emaciation and death. After all, if a person cannot absorb the foods he eats, he differs very little from a person who is starving. The great change in the management of this disease is the introduction of what is known as the gluten-free diet. Gluten is a protein found in the kernels of certain grains such as wheat and rye. It is not known why this substance is harmful to the bowels of these patients. Some people have postulated that there is an allergy to gluten in these patients, but at the moment this is uncertain. What is sure is that if gluten is removed from the diet then, very frequently, the patient's bowel movements will decrease and will change completely in character as he begins to absorb more and more of the food that he eats. I might point out that many physicians in the Toronto area have been helped considerably in their management of patients with this disease by the research done in devising proper gluten-free diets in the department of household science at the University of Toronto, under the direction of Dr. McLaren.

One aspect of medicine that has witnessed a recent and dramatic change in dietary management is that of liver disease. For many years, a high protein diet has been advocated. The reason for the use of such a diet in liver disease has not been entirely clarified, but many believe that its beneficial effect has to do with its content of what are known as lipotropic factors. Two of these are choline and methionine. Experimentally, it has been shown that lipotropic factors help reduce fatty infiltration of the liver where this has been induced by dietary deficiencies or certain chemical toxins.

One of the ways in which people with chronic terminal liver disease or cirrhosis die is in what is termed hepatic coma. Before this, the patient may go through a state in which he is not quite unconscious. In this stage, known as hepatic stupor, the patient may have a flapping tremor, may show neurological changes and even an abnormal electroencephalogram or brainwave study. What is remarkable is the recent observation that such patients could be thrust into hepatic stupor or coma by diets that are rich in protein. It is known that patients with hepatic coma have high levels of blood ammonia. It is believed, although the relationship has not been definitely established, that these high levels of ammonia may be responsible in some way for the psychological and neurological changes that occur in the patient. The level of blood ammonia in these patients can be raised by diets rich in protein. It is also possible to reduce the blood ammonia level and to improve the state of consciousness of the patient by restricting the protein in his diet. Accordingly, when a patient is in hepatic stupor the physician usually removes all protein from his diet. With improvement in the patient's condition, dietary protein is added gradually. However, once the patient has suffered the neurological consequences of hepatic

*(Continued on page 68)*

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1. Adams, Ralph, M. D.: Med. Times, 86:1119-1127 (Sept.) 1958.

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**Changes in Diet**
*(Continued from page 66)*

stupor or coma, it is probably unwise to give him more than 50 grams of protein per day. I might add that in liver disease dietary management is paramount. Special diets are the only significant therapy in most of the complications of liver disease, not only for patients with fatty livers who are placed on high protein diets but also for patients with ascites or fluid in their peritoneal cavities who are put on low salt diets, and now for patients in hepatic stupor who are given protein restricted diets.

Now — a word about some changes in the parenteral feeding of patients. For many years, it has been recognized that with the available intravenous preparations it is impossible to give adequate caloric nourishment to the sick. In other words, by giving intravenous glucose or even protein solutions, we cannot possibly supply adequate caloric replacement for the energy that is burned. This is because the single food stuff which has the most concentrated form of energy is fat and until now it has been impossible to devise a suitable fat emulsion that could be given intravenously. I would like to report on some encouraging progress made in this direction recently. In 1957, a symposium was devoted to clinical experience with a new fat emulsion composed of 15 per cent cotton seed oil stabilized in an homogenized form. The emulsion also contains four per cent dextrose. Usually 600 milliliters of emulsion providing 960 calories are given with each infusion. The present preparation can be used safely over short periods of time. It would appear, however, that its use for longer than two weeks results in increasing hazard. In any event, there is reason to hope that the final solution to the problem will not be long delayed and that complete parenteral nutrition will be practical over extended periods of time in the near future.

At this point, I should like to caution against the use of certain commercial preparations available for tube feeding of patients, who because of illness cannot take sufficient food by mouth. One of these preparations was designed as a high protein feeding, especially in cases of burns where large amounts of protein are lost through the raw surfaces of the skin. However, the danger in this preparation lies in the fact that the amount of water recommended for making up the formula is not sufficient to cover the osmotic needs occasioned by the high protein diet. In other words, if the patients are fed a large amount of protein with an insufficient quantity of water, they dehydrate themselves as the protein is broken down to urea which acts as a diuretic, drawing water out of the body with it during its excretion. Accordingly, patients, especially infants, who are on this regimen may become nauseated, drowsy, run high temperatures and even lapse into coma. Their blood volume can be markedly decreased and their blood sodium and urea reach high levels. The treatment in this condition is to give the patient lots of water in the form of five per cent glucose in water intravenously or by tube if it can be taken. The caution against using insufficient quantities of water with high protein diets can be applied not only to commercial preparations but also to ordinary hospital duodenal feedings. It might be a good exercise for those responsible for such feedings to check the ratio of protein to water in them.

Finally, I should like to deal with some suggestions whereby changes in our present diets might prevent certain diseases. The first condition I should like to discuss is high blood pressure or hypertension. For many years, it has been known that salt is intimately linked with this disease. For one thing, by severe salt restriction, a number of patients have had their blood pressures lowered. Secondly, by giving too much salt experimentally, hypertension has been induced in certain animals, notably rats. It has also been shown recently that some patients with high blood pressure have an excess of salt in their body. Furthermore, certain severe cases secrete an excess of the adrenal salt-retaining hormone known as aldosterone. In recent investigations, Dahl examined over 1,300 adults and classified them according to their blood pressures and again according to their habitual consumption of table salt. Of 105 persons classified as hypertensive, there were 104 with either average or high salt intakes. Only one hypertensive was found among the 135 subjects with low salt intakes. It appears that the average salt intake in human beings is about five to 15 grams a day, with a mean of about 10 grams a day. It also is apparent that this is far more salt than we need for physiological balance. Now, according to Dahl, virtual absence of hypertension has been noted among different ethnic groups who differ widely in their environment, such as the Greenland Eskimo, the Australian Aborigine, some mountainous Chinese tribes and the Cuna Indians of Panama. It is of interest that, apparently, among all the truly primitive groups on whom information is available, the common factor is low intake of salt in their diets—between two and one-half and five grams a day, and sometimes less. By contrast, there is evidence that the West Indian Negroes have a much higher incidence of hypertension than either whites or Panamanian Indians. Apparently the Negroes of this area ingest large amounts of salt chiefly through the consumption of salted pork and fish.

Although there is no question that a salt appetite exists both in animals and in men, there is no evidence that salt craving is inborn. Rather, the high salt intake is based upon induced appetites that are largely the products of social custom. Therefore, salt appetite, as Dahl cautions, is not to be equated with salt requirement. On the basis of these findings and speculations, Dahl recommends that for an average adult without a family history of hypertension, a maximum salt intake of about five grams might be allowed. This is about half the average intake today. For persons with a family history of hypertension, he recommends the early adoption of diets low in salt.

Another illustration is the disease known as arteriosclerosis. Unfortunately, here hypothesis and opinions are frequently confused with facts. Most of the recent experimental work has attempted to relate either dietary fat and/or the level of blood lipids to arteriosclerosis, particularly coronary artery disease. Available evidence suggests that disorders of fat transport and metabolism may play an important rôle in arteriosclerosis, but there seems little doubt that multiple factors includcluding heredity, mechanical stress and hormones, also are important. Much of the experimentation on this disease resolves itself into factors affecting either of two possible stages in the development of arteriosclerosis. Firstly, there are those factors which influence

*(Concluded on page 112)*

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# With the Auxiliaries

### A Chapel is Dedicated

In a quiet and simple ceremony, a new chapel on the ground floor of the new wing in Belleville General Hospital, Belleville, Ont., was dedicated. There is a story behind it. Some years ago, the Belleville Ministerial Association co-operated with the hospital auxiliary by giving up space for a chapel so that the coffee shop, an auxiliary project, could be set up. It was in appreciation of this that the auxiliary provided an organ for the new chapel and helped share in its furnishing and decorating. The chapel is for the use of nurses, patients and visitors.

### Seventy Years a-Sewing

The busy auxiliary of Montreal's Lachine General Hospital (Quebec) has much to be proud of. Among its industrious and devoted members are a mother and daughter who, between them, have contributed 70 years' service to the hospital. For twenty years before the auxiliary was formed, the older woman worked for the hospital, looking after the linen, mending, making sheets and sewing operating room outfits for doctors and nurses. All together, she has given 50 years of time and talent to the hospital. Trying to match this record, her daughter has worked over 20 years for the auxiliary, and is now its sewing group leader.

An ambitious sewing project is only one of ten undertaken by the auxiliary, which has raised $91,586 during the ten years since its reorganization after World War II. In one major undertaking, the hospital's maternity wing was completely re-done. Its good works are sure to continue as long as it has members, like this busy mother and daughter team, who go on contributing to its success.

### Helpful Husbands

The ladies of South Peel Hospital, Cooksville, Ont., have very co-operative mates who willingly spent long hours in a basement workshop manufacturing electric candles in three different sizes. Once the candles were made, the auxiliary members got busy and sold them. The money raised went to the auxiliary fund. Husbands, too, can help the hospitals.

### Bazaar—with a difference

A tea, sponsored by the auxiliary to the Victoria Union Hospital, Prince Albert, Sask., went on at the same time as a rather unusual bazaar—in the gymnasium of the Saskatchewan Women's Jail. Articles on sale were made by the inmates who also looked after the selling. The auxiliary found the girls eager to help with the tea, and for this occasion, they were allowed to mingle freely with the guests. This bazaar is a very worthwhile undertaking—for it is felt that working on such items as hand-loomed rugs and fancy knitting helps the girls relax and makes them more willing to discuss their problems.

### The Fair Was Fun

The seventh annual variety fair of the women's auxiliary to the Meaford General Hospital, Meaford, Ont., offered a good time to everyone. This year's fair was especially important because the needs of the hospital have increased with the building of a new wing.

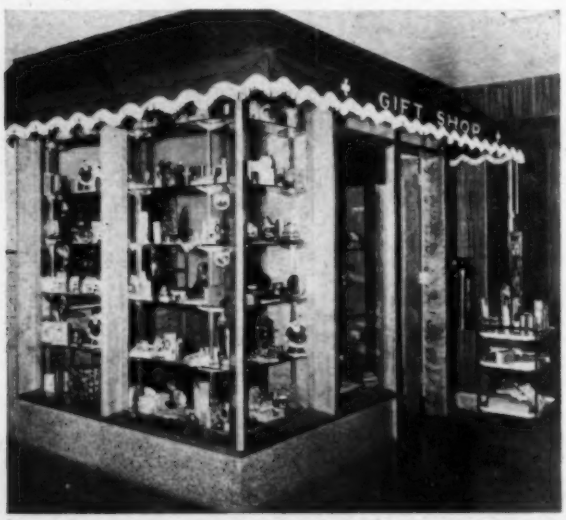
W. J. Mac, an artist who sketched men only, added his talents to the festivities. Fun-loving children watched the movies provided just for them. Hungry visitors munched huge "Dagwood" sandwiches, preparing for the stroll among booths displaying home-made candy, panda bears, aprons and knitting.

### Venetian Ball

Beautiful gowns and lavish decorations were displayed recently at the annual ball held by the women's auxiliary to the New Mount Sinai Hospital in Toronto. This year it carried its guests back to old Venice. Huge Venetian banners, in pale and shocking pink, lined the walls. The damask table cloths were a deeper pink and each table held a centrepiece—a small gold gondola with flowers and candles. Wrought iron street vendors' carts brought favours to the 1,100 guests. A gay and glamorous ball to help a hospital.

### Learning to Cook—With Gas

The auxiliary of the Great War Memorial Hospital in Perth, Ont., became the sponsors of a very interesting cooking school, a natural gas cooking school. Interested citizens gathered at the town hall for a demonstration and film. And one of them was lucky enough to win a gas range. The auxiliary donated the evening's proceeds to the hospital for the purchase of new equipment.




*The White Cross Gift Shop—an interesting auxiliary feature at the Winnipeg General Hospital, Winnipeg, Man.* *(See page 42).*

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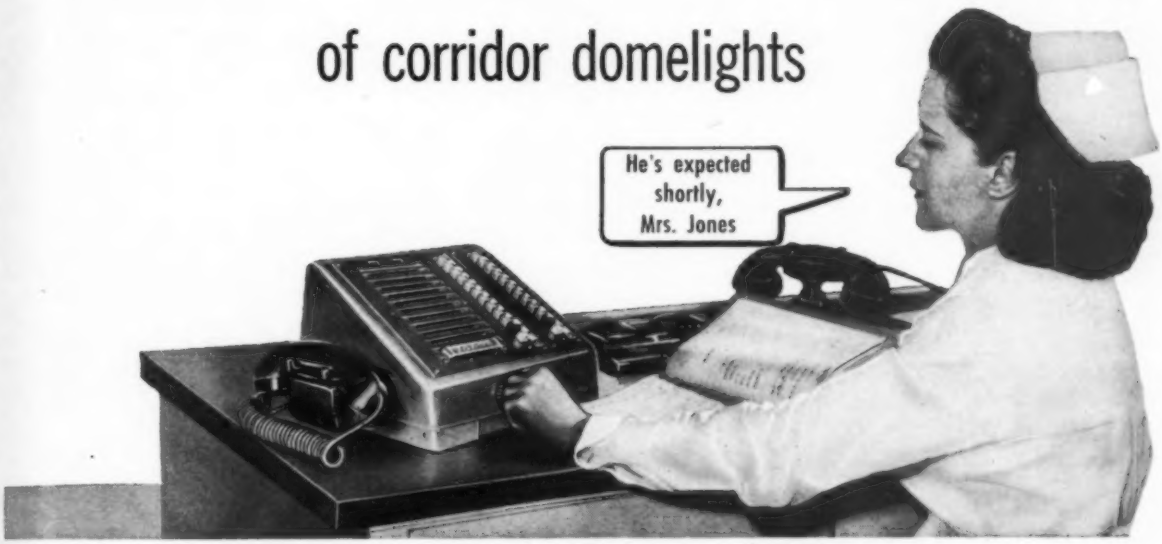


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# Notes on Federal Grants

### Construction

A new general hospital at Murdochville, Que., will receive $65,653 in grants to go towards the cost of construction. This hospital, to serve the community and mines in the Gaspé North area, will have 21 beds, six bassinets, a community health centre, complete surgical and maternity units, x-ray department and other services.

St. Theresa's Hospital, St. Paul, Alta., has been granted $82,000 for a new building to house 76 beds, 18 bassinets, operating rooms, solaria, two day rooms and a modern kitchen and laundry. The new hospital, which is expected to be completed in the summer of 1960, will replace the present hospital.

To help with construction the federal government has allotted $132,920 to Prince Edward Island Hospital, Charlottetown, P.E.I. An additional 66 active treatment beds and space for a laboratory will be provided in this five-floor wing, the first phase of an extensive program of new construction and renovation.

The new Welland County General Hospital, a six-storey building with 284 beds and 51 bassinets which will replace the existing hospital built in 1908, has been awarded $695,186 in a federal grant. The new structure will also provide interns' quarters, an out-patient department and modern medical, surgical and obstetrical facilities.

To help in the cost of an addition more than twice the size of the main building, the Queen Elizabeth Hospital in Montreal will receive $939,556. The money will also provide for major renovations to the existing hospital and a nurses' residence of 110 beds plus teaching facilities. The new addition will contain 137 more patients' beds, 32 bassinets and out-patient services.

St. Joseph's Hospital, Sarnia, Ont., will be helped by a $378,161.67 grant for the construction of a new 150 bed wing. The wing will also house 20 bassinets and a clinic to be used for psychiatric, cancer, tuberculosis and blood donors as well as for hospital staff training programs, and doctors' meetings. It will bring the hospital's capacity to just under 300 beds and 50 bassinets.

For renovations and a new wing, the Fleury General Hospital, Montreal, Que., gets $532,760 in federal construction grants. Out-patient services, 220 beds, 31 bassinets and interns' accommodation will be provided in the new building, and the older building will be renovated to give additional space for patients' beds, nurseries and out-patient facilities.

The present hospital of Little Bow Municipal Hospital, Carmangay, Alta., will be replaced by a new 14-bed building. The sum of $15,000 has been awarded towards construction costs. An x-ray area, nursery and other facilities will also be included in the new building.

To aid in the extension of Victoria Hospital, London, Ont., $103,880 has been allotted. The construction of a new building, which will replace the existing isolation building, will mean 35 more active treatment beds, greater auxiliary services and more teaching areas.

Space for physiotherapy, electrocardiography and other facilities will be enlarged at the Queensway General Hospital, Toronto, Ont., with the aid of a $9,213 grant.

At the Brantford General Hospital, Brantford, Ont., a new eight-storey wing for 211 beds and 41 bassinets, will be helped in construction by a grant of $482,701. The new building will replace the Stratford wing which was the original hospital building.

The General Hospital of Port Arthur, Port Arthur, Ont., will use its grant of $162,000 towards the costs of building a four-storey wing. The new wing will give 81 additional beds (65 active treatment, eight isolation, and eight paediatric) to the present 257-bed accommodation.

### Diagnostic and Research

The Hospital for Sick Children, Toronto, Ont., has been granted more than $3,700 for a one-year research project to study the effects of continuous compression of articular cartilage — useful knowledge in treating crippling conditions in children.

The purchase of scientific and technical equipment for expanding the research and clinical program in cardiology at the Royal Victoria Hospital, Montreal, Que., will be encouraged by a grant of $5,405. Most of this equipment will be used in the Royal Victoria's new medical wing, expected to be completed in September, 1959.

### Public Health

More than $2,300 will go to help meet the costs of two-day seminars on children's dentistry for practising dentists in Alberta. This program will be a refresher course focusing on new methods in treatment and on improved dental services for children, and will be given in Edmonton, Calgary, Lethbridge, Medicine Hat, Red Deer and Grande Prairie.

The City of London's board of health will be aided by $25,274 in defraying the costs of a permanent diagnostic chest clinic centre. The clinic will concentrate on special group chest x-ray programs, including food handlers, special industrial groups, contacts of tuberculosis cases, school children who react to the tuberculin test, applicants for employment in industry, office patients of private physicians, new Canadians, and other special groups. Medical supervision will come from the Beck Memorial Sanatorium, administration from the city. The grant will be used to buy x-ray equipment and for salaries.

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### Sask. Lab. is Opened

A new, $850,000 Provincial Laboratories building, a division of the Saskatchewan public health department, was opened recently in Regina. Provincial Laboratories have a pioneering past—emerging with epidemics and adapting their services to meet the changing needs of health in the province for 53 years. The laboratories are health workshops of sanitary officers, health officers, private physicians and hospitals. They also provide services to government departments. Ninety-five per cent of their services are free. The new building is connected by a 100 foot long tunnel to the Public Health Building in Regina, and is distinctively decorated by three mosaic panels, depicting microbiology, biochemistry, and haematology, which were designed and worked by Wolfram Neissen, a sculpture instructor at Regina College's School of Art.—*Sask. News.*

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## Consent Forms

*(Continued from page 53)*

and the hospital against a possible claim for damages. The relevant issues, and the nature of any risks should be explained to the patient in terms that can be easily understood and the patient should be allowed to make up his own mind without any suggestion of a dictatorial attitude.

*Blank Cheques Undesirable*

A few hospitals used to ask a patient on admission to sign a consent form in the form of a "blank cheque". Morally this is quite indefensible, and legally it is doubtful if it would afford much protection to the hospital in the event of a claim for damages for assault. It is farcical that "medical" patients on whom no operation is contemplated, as opposed to "surgical" patients, should be required to sign a form consenting to an operation! If the consent form is signed on entry, the hospital cannot explain the nature, character and extent of the operation and even less be able to explain the degree of risk involved, so the patient may be left completely in the dark as to the effect of the form he has signed, which would have little legal effect. Therefore few hospitals now obtain a patient's signature to a consent form on first attending hospital; especially as alternative courses may be found later, and the choice of procedure and degrees of risk may have to be explained by a doctor before the patient signs the consent form.

*"Omnibus" Consent Forms Undesirable*

Again, the consent form should be no wider than is necessary for the particular operation or treatment that is proposed. Even if the consent form is explained by the doctor to the patient, the description of the operation inserted on the consent form must be adequate, but no wider than is necessary.

An *omnibus* form of consent couched in general terms may be open to strong objection; for the purpose of getting consent is to be sure of the patient's approval of something genuinely understood. The press in London recently reported a discussion by a hospital management committee on a medical committee recommendation to introduce a special consent form, requiring patients (and parents in the case of children) to sign forms consenting to any investigations and tests that may have to be carried out. The hospital management committee was reluctant to grant powers of examination and investigation on so wide a scale. The committee doubted whether parents would be willing to sign such forms, and therefore the proposed consent form was referred back to the medical committee to think over again. Since this instance was reported, some hospitals have reviewed their consent forms with a view to eliminating *omnibus* forms of consent, in order to safeguard patients against investigations or treatments they may not desire.

Some hospitals in the United States include a space on the operation permit under the heading of "Exceptions, if any", so that a patient can clearly indicate any operation or treatment not desired. There is no reason why a patient in other countries should not also restrict his consent to an operation reasonably appropriate to relieve him of his condition. It would be desirable for a note to be made in writing on the medical records where a patient has expressed a desire to restrict the extent of the operation.

**No Assurance of a Particular Surgeon or Doctor**

The British consent form now stipulates, in the case of a patient having free hospital treatment under the National Health Service, that no assurance is given that the operation will be performed by a particular surgeon. This clause was inserted a few years ago after a patient had successfully sued a surgeon on the grounds that a surgeon other than the one to whom he gave consent had carried out the operation.

The circumstances of this case (Michael v. Molesworth, 1950), reported in the *British Medical Journal* 15.7.50) were that a senior surgeon at the Royal Victoria Hospital, Folkestone, England, advised a patient to have an operation for hernia, and the patient was admitted to a public ward. The senior surgeon was unable to attend the hospital on a day fixed for the operation and he entrusted the house surgeon to perform it. The operation was successful but the patient brought an action against the senior surgeon asserting that he had undertaken to perform the operation for a fee. It was held that there was no breach of contract, but that the house surgeon had operated without leave or licence. Although the operation was successful, the patient won his case and was awarded nominal damages of 20s. against the senior surgeon.

As a consequence of this case, British hospitals now make it clear in their consent forms that there is no promise that the operation will be performed by a particular surgeon, although in practice even free (Health Service) patients are usually told in advance who will carry out an operation.

**How Far Does Consent Extend?**

A typical consent form in the United Kingdom provides for consent to such further or alternative operative measures as may be found to be necessary during the course of such operation.

Even without this clause where a patient is under an anaesthetic and a more serious operation is found to be necessary, consent will be presumed where, for preservation of life and health, immediate action is necessary. In an emergency, the law confers a very wide discretion on doctors and surgeons, and the need for express consent is sometimes dispensed with, on grounds of public policy.

It is, however, dangerous for the doctor to contravene the express instructions of a patient, or even to assume that the patient would agree to a more serious or different operation, especially if there is no urgency for the operation to be carried out.

For example, in an American case (Mohr v. Williams, 1905; 104 N.W. 12) a patient consulted a surgeon about trouble in her right ear, and the surgeon advised an operation on the right ear. While the patient was under an anaesthetic, the surgeon discovered that the left ear was in a more serious condition than the right ear, and without waiting to obtain the patient's consent, he operated on the *left* ear. After the operation, the patient brought an action for assault, and as the evidence did not show that any emergency existed which required an immediate operation she was awarded the substantial damages which she claimed. This decision was upheld, on appeal, by the Supreme Court of Minnesota.

In an emergency, however, consent can be presumed where a more serious operation becomes necessary to preserve the life, limb or health of the patient. A written consent, including a clause to that effect, puts the issue beyond any doubt. A patient would, however, be entitled to delete that clause before signing the consent form if she so wished, and therefore, in

*(Concluded on page 78)*

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### Consent Forms

*(Continued from page 76)*

such a case, only some serious emergency would justify a surgeon carrying out "alternative operative measures".

### Accident Cases

As a result of an accident a seriously injured person may be taken to hospital, where an immediate operation has to be carried out to save the patient's life. As the patient may be unconscious, if possible, consent should be obtained from the nearest relative. If, however, it is not possible to obtain the consent of a relative, a surgeon who operates would be able to plead the defence of "necessity", provided the operation was a matter of vital urgent necessity, and could not reasonably be postponed.

In the film "Reach for the Sky" which depicts the life of Group Captain Douglas Bader, there is a moving scene in which the surgeon informs Bader's mother of the serious injuries her son has sustained as a result of a flying accident. He explained that it was necessary to operate again to amputate both his legs in order to try to save his life. He asked for her consent which, hesitatingly and reluctantly, she gave. Whenever possible, surgeons will postpone an operation until they have seen and obtained the consent of the nearest relative.

*Consent of Relative*

Where there is no emergency, the consent of the husband or wife or nearest relative (often the nearest male relative) is obtained when the patient is not in a fit state, physically or mentally, to give consent.

If a patient is unconscious, a doctor will make every effort to obtain the consent of the nearest relative. In practice, the hospital sometimes informs the police to pass a message to the nearest relative who may live in another town, and who may not be available on the telephone. If the operation is urgent, the hospital cannot always wait for a reply, as it may take the police some time to contact the nearest relative.

In the case of an operation on an infant or minor the consent of the parent or guardian is always sought, although in the case of a minor over 16 it is a customary courtesy to obtain the minor's agreement to approach the parent.

In the case of an operation or treatment on a mental patient, the consent of the nearest relative is obtained and at the same time the "risks" of the operation or treatment are mentioned.

Sometimes where a patient has a large number of relatives the question is asked: "Who is the nearest relative?" This is largely a theoretical question and it is not usually necessary for a hospital to make elaborate geneological enquiries. Usually it is quite sufficient if the hospital obtains the consent of the nearest responsible relative, preferably a man, who is nearest not only genealogically but nearest in availability. The hospital would be covered even though such a relative were not the nearest blood relation, as it could be assumed that such a relative had an implied authority in an emergency to consent to an operation on behalf of a patient.

For those, however, who occasionally may be in doubt, the nearest relative may be decided under the order of priority laid down for the rules for intestacy, operative in U.K., as follows: husband or wife; sons or daughters; parents; brothers or sisters of the whole blood; brothers or sisters of the half blood; grandparents; uncles or aunts of the whole blood; uncles or aunts of the half blood.

*(To be continued in March)*

## Coming Conventions

**Mar. 2-4**—Institute on Safety and Insurance, sponsored by the American Hospital Association and the Ontario Hospital Association, King Edward Hotel, Toronto, Ont.

**Mar. 4-6**—Quebec Hospital Association, annual convention, Windsor Hotel, Montreal, Que.

**Mar. 9-11**—Institute for Directors of Hospital Volunteers, sponsored by the American Hospital Association, A.H.A. headquarters, Chicago, Ill.

**Mar. 9-13**—Housekeeping Institute, sponsored by the C.H.A. and B.C. H.A., Vancouver, B.C.

**Mar. 16-18**—Institute on Labour Relations, sponsored by the C.H.A. and B.C.H.A., Vancouver, B.C.

**Apr. 6-9**—Nurses-Surgeons Joint Meeting, American College of Surgeons in Canada, Montreal, Que.

**Apr. 6-9**—A.C.S. Section Meeting on Ophthalmologists, Queen Elizabeth Hotel, Montreal, Que.

**May 11-13**—Canadian Hospital Association, 15th biennial meeting, Queen Elizabeth Hotel, Montreal, Que.

**May 30-June 4**—Catholic Hospital Association, 44th annual convention, Saint Louis, Missouri.

**June 2-5**—Canadian Society of Radiological Technicians, 17th annual convention, Queen's University, Kingston, Ont.

**June 9-12**—Health Technicians Sixth International Exhibition-Congress, Exhibition Park, Porte de Versailles, Paris.

**June 21-25**—Canadian Society of Laboratory Technologists, annual meeting and convention, Palliser Hotel, Calgary, Alta.

**June 24-26**—Comité des Hôpitaux du Québec, annual convention and commercial and scientific exhibition, Montreal Show Mart Inc., Montreal, Que.

**July 20-24**—Canadian Medical Association—British Medical Association, joint annual meeting, Edinburgh, Scotland.

**Aug. 24-27**—American Hospital Association, annual convention, New York City, N.Y.

**Sept. 6-12**—World Confederation for Physical Therapy, 3rd international congress, Paris, France.

**Sept. 22-23**—Catholic Hospital Conference of Alberta, 16th annual meeting, Corona Hotel, Edmonton, Alta.

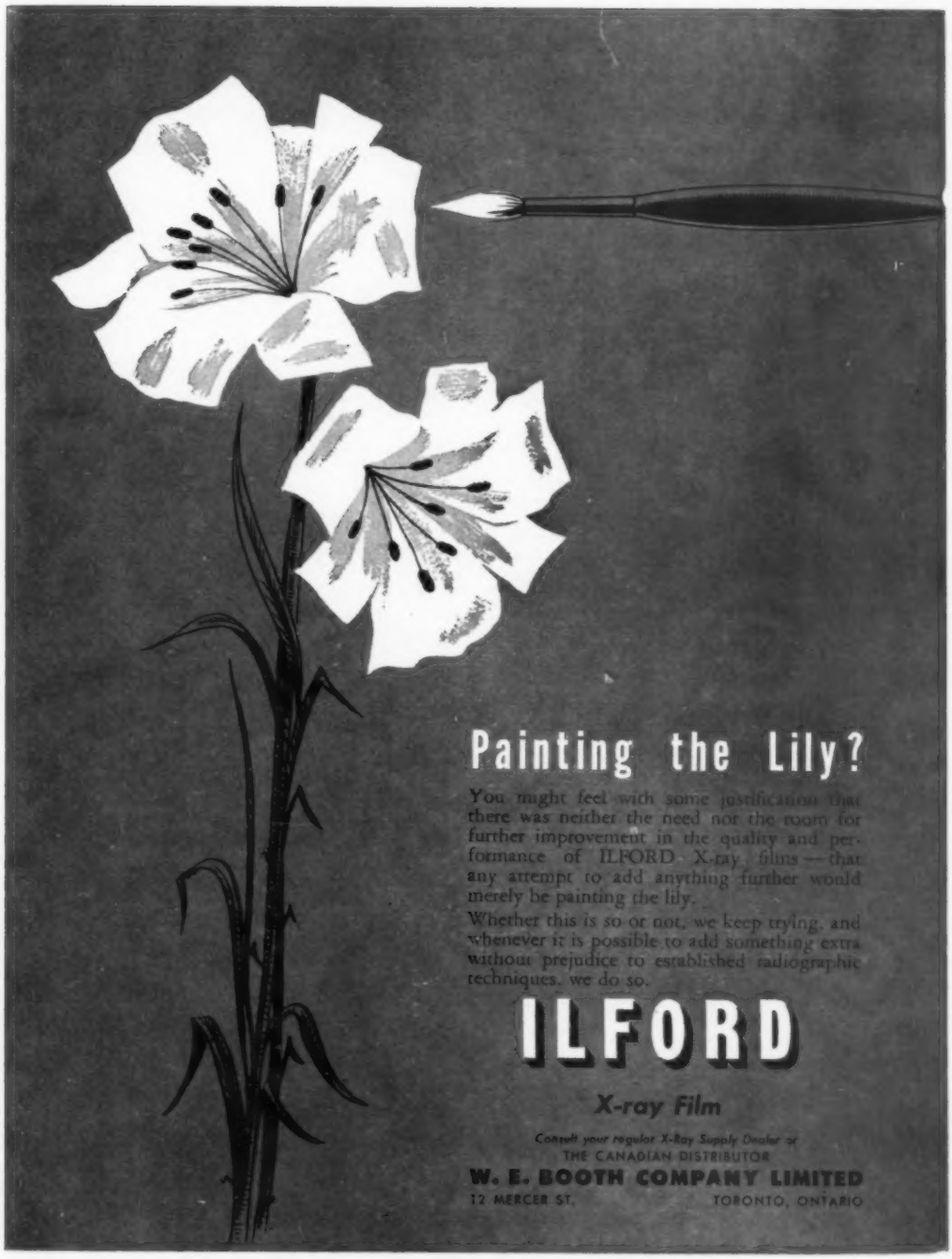
**Oct. 14-16**—Saskatchewan Hospital Association, annual meeting and convention, Bessborough Hotel, Saskatoon, Sask.

**Oct. 17-18**—Catholic Hospital Conference of Saskatchewan, annual meeting, Bessborough Hotel, Saskatoon, Sask.

**Oct. 20-23**—British Columbia Hospitals' Association, annual convention, Hotel Vancouver, Vancouver, B.C.

**Oct. 26-28**—Ontario Hospital Association, annual convention, Royal York Hotel, Toronto, Ont.

**Oct. 29-30**—Ontario Conference of the Catholic Hospital Association, St. Michael's Hospital, Toronto, Ont.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# Of Special Interest to Advertisers

**We are often asked: How does the Canadian Hospital Association, and its journal, Canadian Hospital, serve the hospital field, readers and advertisers? Here are some of the answers.**

**Charles A. Edwards**

THE Canadian Hospital Association is the federation of provincial and regional hospital associations, Catholic conferences, and the Canadian Medical Association, co-operating with the federal and provincial governments and voluntary non-profit organizations in the health field.

**How are we financed?**

The hospitals in each province support their provincial associations. The latter in turn make grants, based on bed capacity, to the Canadian Hospital Association. In addition, the Sun Life Assurance Company of Canada has, since our inception, contributed substantially to our funds for general purposes; and the W. K. Kellogg Foundation has for many years generously supported our educational programs. The Canadian Council of Blue Cross plans has also contributed to our work for a number of years. Surpluses from the operation of our publications are also used in the promotion of various association activities.

**Educational programs**

Hospital Organization and Management is the title of an extension course conducted by the association. Each year some 80 students, representing hospitals from coast to coast, enrol for the two-year program. Courses are conducted by mail and supplemented by summer-school training in a central place. Thus senior hospital personnel are enabled to qualify for more responsible positions in hospital administration. Another popular extension course is that offered to medical record librarians — a type of training which is in great demand.

Our association maintains an extensive library of hospital literature. Hospital people may borrow package libraries on a three-week basis without charge. An information service is also provided to give data on construction and hospital procedures.

**Accreditation**

The Canadian Hospital Association is, of course, a constituent member of the Canadian Council on Hospital Accreditation. In this project we are associated with the Canadian Medical Association, The Royal College of Physicians and Surgeons of Canada, and l'Association des Médecins de langue française du Canada. The accreditation program is one of the most useful instruments yet devised for improving hospital care (see pages 48 and 50).

**Directory**

Each spring we publish the *Canadian Hospital Directory*. This publication serves many useful purposes: It provides a complete list of hospitals in Canada, maps showing location of towns and cities, names of key personnel, bed capacity, budget and admissions; tables showing bed distribution; detailed information on educational programs for hospital personnel; listings of hospital associations and allied organizations; and a buyers' directory of equipment and supplies. This year, as in 1957; it also has a section on hospital construction. Much of the information contained in the directory can not be found elsewhere.

**Canadian Hospital**

The journal of the association, *Canadian Hospital*, belongs to the hospital people of Canada. It is the medium through which they can share their ideas on all phases of hospital service. In it they read articles by authorities in the field, news, and editorial discussion of current topics. Each month *Canadian Hospital* features at least one new hospital lay-out. One of our regular columns is devoted to the work of the women's hospital auxiliaries, and one article each month is sponsored by the Canadian Dietetic Association. Articles of special interest to particular departments appear frequently, and on occasions a whole issue may be devoted to phases of one topic; *e.g.*, construction, hospital insurance, staphylococcal infections, accounting, or nursing. Here, too, readers find effectively illustrated advertisements of the best products available to them, as well as news provided by supply houses.

Our readers encompass all groups who work in and for hospitals—from administrators to department heads, chiefs of medical services and trustees, hospital architects, hospital consultants and engineers. Public libraries and government departments are also among our subscribers.

*Canadian Hospital* is the most effective and economical medium for the distribution of information by the hospital supply houses. Because many firms have advertised consistently in our columns for up to 35 years, and because the volume of our advertising is constantly increasing, we believe that *Canadian Hospital* enjoys the full confidence and respect of our 250 advertisers. Monthly circulation is approximately 4,100—70 per cent of which is on a paid subscription basis.

For many years the Canadian Hospital has enjoyed a large volume of advertising. This has enabled us to set advertising rates which are lower than those of most other magazines of comparable circulation.

We trust that the foregoing helps to explain to our advertisers some of the objectives and accomplishments of the Canadian Hospital Association and its publications.

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**"Certainly! He'll want to know about the two NEW Farmer's Wife Prepared Formulas—with vitamin C added!"**

Doctors know and trust Farmer's Wife Infant Formula Milks, which have been consistently first in every major infant feeding development. Now Farmer's Wife is first again, with the incorporation of a stable form of Vitamin C (5.0 mg. per fl. oz.) into its two new "Instant" Prepared Formulas. These are:

1. **Farmer's Wife Red Band Prepared Formula, made from Farmer's Wife Concentrated Whole Milk, with added carbohydrate, and Vitamins C and D. (6% Butterfat).**
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Doctors will appreciate the fact that these two new Farmer's Wife Prepared Formulas eliminate the chance of contamination or error in formula preparation. They save mothers time, trouble and expense.

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*Prescribed by doctors—Approved by mothers*

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# Provincial Notes

## British Columbia

The Royal Inland Hospital at Kamloops will be the centre for a regional laboratory service like those in Vancouver and Victoria. All hospitals in the area will receive its complete pathological consultation service.

The Vernon Jubilee Hospital, Vernon, is planning a 25-30 bed addition which will include a paediatric section and additional adult beds. There will be a new laundry and major structural alterations to the existing building—a new medical records department and an enlarged laboratory department. The formation of a hospital improvement district is in progress.

Architects Townley and Matheson of Vancouver have prepared sketch plans for a proposed new Mission Memorial Hospital. The new building is to have 50 beds.

## Alberta

The government of Alberta plans to build a senior citizens' rest home in Innisfail, adjacent to the Innisfail Municipal Hospital. The project will cost about $200,000.

The new wing at the Grande Prairie Municipal Hospital in Grande Prairie has been opened. It houses five ultra-modern operating theatres. There is a large central kitchen in the basement where meals will be prepared for patients all through the hospital. The lighting system in the wing supplies old and new sections of the hospital as well as the nurses' residence. Provision has been made for the addition of three more storeys—and, it is believed, that addition will not be too long in coming. The 30 beds gained in the new wing are not enough to fill the need.

## Saskatchewan

A $400,000 geriatric addition to the Saskatchewan Hospital, North Battleford, in the form of two Y-shaped wings, will provide treatment for elderly mental patients. Each wing houses 60 patients and contains day rooms for small groups as well as bedrooms for one, two, or four. Modern, comfortable furniture and pleasing colour combinations create a warm and homelike atmosphere. The one-storey structure has ramps instead of stairs, allowing patients easy access to other facilities.

Renovations are being planned for the east and west wings of the Saskatoon City Hospital in Saskatoon. Cost is estimated at $220,400. Plans cover the renovation of an area containing 116 of the 134 beds in the east wing (at a cost of $114,400), and renovation of space for 47 of the 105 beds in the west wing, plus an addition of 19 beds (at a cost of $87,500). There is also to be a new ambulance entrance at the west side of the hospital.

Work on the new wing of the Brock Union Hospital in Arcola is progressing steadily. While the workmen add the finishing touches, local organizations have been holding vigorous campaigns to raise money for furnishings and equipment.

## Ontario

Having suffered a long time from a serious lack of space, St. Mary's Hospital in Kitchener looks forward to a $4,200,000 addition. This would provide 238 more beds and would include expanded and modernized ancillary services.

After much deliberation, a site was chosen for the new Rosamond Memorial Hospital in Almonte. The new building will stand on two acres across from the present hospital.

A 400-volume medical library has been donated to the Kitchener-Waterloo Hospital in Kitchener. For 70 years, Dr. W. L. Hilliard, ex-mayor and former medical health officer of Waterloo, has been collecting medical books. Now these books belong to the hospital. He feels that they will show young interns the advance in medical skills that has taken place over the years. "Why some of those books were printed when we didn't even know what appendicitis was," he said.

The new Georgetown district hospital in Georgetown will be erected on a large tract of land in the park district. The architects are Govan, Ferguson, Lindsay, Kaminker, Langley, and Keenleyside, Toronto.

Architect L. G. Bridgman, and his associate R. O. MacTavish, both of London, will prepare preliminary sketches for an addition to Ingersoll's Alexandra Hospital.

Work on the new Prince Edward County Hospital in Picton is well under way. As the building progresses, a number of donors are contributing money for the furnishing of rooms and the purchase of new equipment.

Arnprior is in the midst of a vigorous fund-raising campaign and collected funds are steadily increasing as citizens give what they can for a new hospital. The present hospital — Arnprior and District Memorial — has served residents well, but deficiencies in its layout plus an increasing population make a new building necessary.

The Wingham General Hospital, Wingham, is to have new equipment valued at $11,000. There will be a portable x-ray unit, a new dishwasher, equipment for the physiotherapy department and furniture for ten private rooms.

The remodelling of the Brow Infirmary does not mark the end of plans for Hamilton's Mountain Sanatorium. Tenders have been called for an addition to the Wilcox pavilion. The addition will double the size of the pavilion and will provide complete general hospital service for the Mountain. It will also include an 80-bed floor for children.

St. Joseph's Hospital in Port Arthur is planning a lovely new $3,500,000 wing. When it is finished the hospital will have a well-equipped rehabilitation centre and a well-planned emergency department. In this new wing, too, delivery rooms and nursery, widely separated in the present hospital, will be side by side. Premature babies will have their own incubator nursery. Plans show the administration offices, admitting and waiting area, doctors' lounge, library and board room on the first floor with the emergency department, the kitchen and the cafeteria. On the second floor, there will be surgery and patients' rooms. The

obstetrical department will be on the third floor, the medical department on the fourth and paediatrics on the fifth. The new wing will raise the number of beds in the hospital to 313, with 40 bassinets. Architects are Fabro and Townend of Sudbury.

A new wing of 20-25 beds will be added to St. Mary's Memorial Hospital, St. Mary's. Total cost of the new wing, as estimated by the architects O. Roy Moore and Associates, London, will be about $200,000 for the building plus $40,000 for furnishings. The new structure, to be connected to the present hospital by a ramp, will include four four-bed wards, two two-bed wards, and a large solarium.

## Quebec

Day by day, the new Hôpital de la Providence in Magog grows larger. The new building will be completely fire-proof and will be in an ideal spot for patients who need rest.

As construction of l'Hôpital St. Raymond neared completion, the funds raised for it passed the objective of $30,000 to reach an impressive $35,000.

Construction has begun on the new Institut de Réadaptation de Montréal (Montreal Rehabilitation Institute). The six-storey building will cost an estimated $2,500,000 and will enable the institute to improve its services to the handicapped. It is expected that the building will be completed in 1960.

A new hospital is going up in La Visitation. Designed by architect Yves Bélanger of Montreal, the hospital will be completely modern and will offer the greatest possible comfort to patients. The building was scheduled for completion this month.

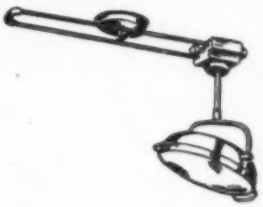
## Nova Scotia

Architects Govan, Ferguson, Lindsay, Kaminker, Langley and Keenleyside, Toronto, are preparing plans for a proposed addition to St. Joseph's Hospital in Glace Bay. The cost is estimated at $1,375,000.

New Glasgow's Aberdeen Hospital has received a donation of $1,000. The money came from a resident grateful for a successful operation performed upon his mother, and was to be spent for the surgical department under the

*(Concluded on page 86)*

EYEREST Green



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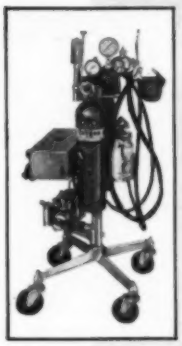

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Unit includes operative head complete with automat, flowmeter calibrated for oxygen and 80-20% helium-oxygen mixture, automatic regulator for large size cylinders, 3000-lb. cylinder pressure gauge, interchangeable inhalers, adult size catheter adapter, tubings and aneroid manometer.

**BELLOWS-TYPE RESUSCITATOR**
Small, efficient and portable unit. Operates on air or oxygen. Consists of 1600 cc.-capacity bellows, a face mask and valve placed between them. Safety valve limits pressure to 20 mm. Hg. All valves operate automatically.

**PIPELINE RESUSCITATOR**
A small, lightweight unit that attaches to oxygen wall outlets. Automat (inhalation pressure regulator) has adjustable pressure range of from 0 to safety relief setting of inhaler relief valve or less.

**PORTABLE EMERGENCY UNIT**
Ideal for cases requiring simple resuscitative procedure or direct-flow oxygen therapy. Needle valve controls flow. Safety relief valve limits positive pressure to 20 mm. Hg.

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**Provincial Notes**
*(Concluded from page 83)*

direction of the surgeon who performed the operation. Hospital authorities point out that such donations help keep equipment available for surgeons and doctors up-to-date.

The impressive new $3,500,000 addition to the Nova Scotia Hospital in Halifax has been officially opened. As this addition (an admissions building and active treatment centre) opens, the hospital enters into its second century of service to the mentally ill. One enters the lovely building through wide glass doors studded with metal discs. Each floor has private rooms as well as four-bed wards—patients are assigned to whichever best fits their needs. There are spacious rooms for occupational therapy, a beauty parlour, a post office, quiet rooms for reading or writing letters and comfortable sitting rooms. The hospital has been built for the future and will be adapted to new methods when they come about. Treatment centres—rooms for insulin treatment, electric shock, surgery and x-ray, are in the centre of the building. Each floor has a nurses' station from which the nurse, who also controls a public address system, has an unobstructed view. The building, which can accommodate 232 patients, was designed by architects Downie, Baker and Ahern of Halifax.

## *New Brunswick*

Preliminary drawings of a proposed new addition to Moncton Hospital, Moncton, have been prepared by Toronto architect J. B. Langley. Final plans will not be completed for another year, and the earliest construction date would be the spring of 1960. But the hospital authorities are looking ahead, hoping that when building does start, their preliminary work will help speed up construction. ■

**Hospital Construction in B.C.**

As British Columbia's centennial year of 1958 drew to a close, many areas of that province witnessed the results of a great program of hospital construction.

Stretching from Fort St. John in the north to Victoria in the south, from Tofino on Vancouver Island's west coast to Kimberley in the province's eastern interior, 37 major hospital projects are either under construction or at various stages of planning. This tremendous undertaking involves over 2,800 beds at a gross expenditure of almost $47,000,000—of which the provincial government will pay an estimated $23,500,000. (In B.C. the provincial government, through the B.C. Hospital Insurance Service, pays one-half of all approved costs for both acute and chronic hospital construction.) In addition to these projects already under way, or on the planning boards, ten other construction projects were completed in 1958, involving 486 beds at a total cost of approximately $6,500,000.

This expansion of hospital facilities reveals the efforts being made by all levels of hospital administration throughout the province to meet the needs of a rapidly growing population.

---

One of our present troubles seems to be that too many adults, and not enough children, believe in Santa Claus.—*Coronet.*


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***NEW SELF-CLOSING ROPELESS LAUNDRY BAG*** **seals in linen completely without knots, ropes or ties of any kind . . . permits fast, more aseptic pick-up, delivery and sorting of soiled linen!**

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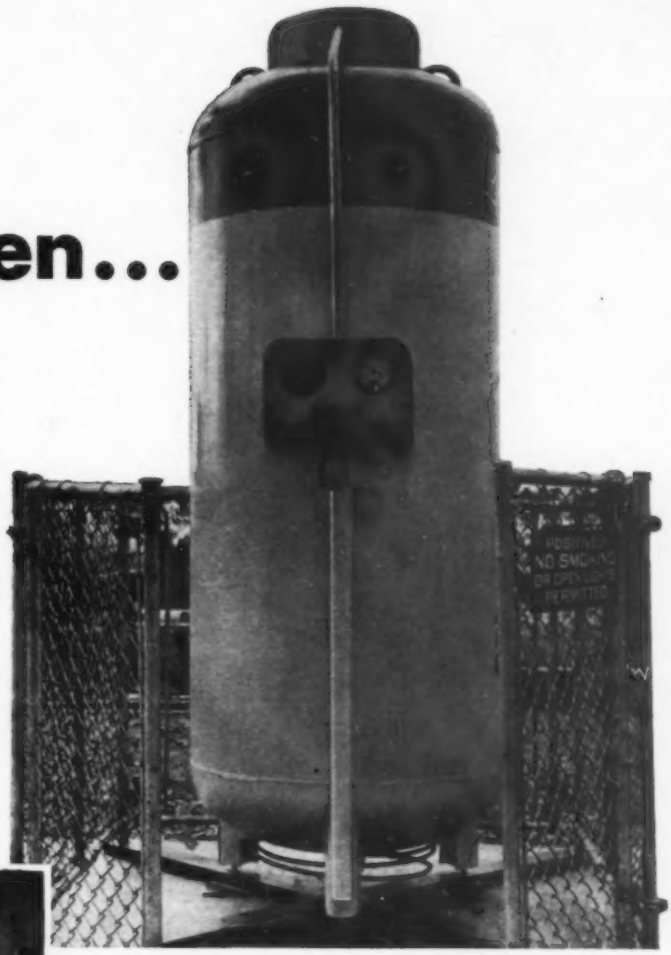

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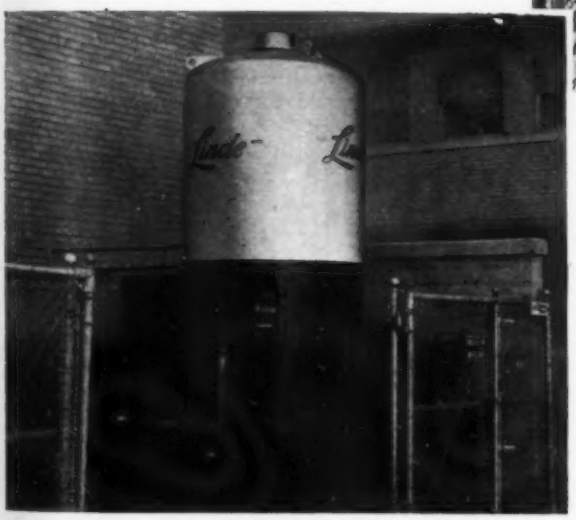

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### Administrative Residency

The following is the summary of a talk by G. Harvey Agnew, M.D., director, department of hospital administration, University of Toronto. It was given at the National Symposium on Graduate Education for Hospital Administration held at the University of Chicago, December 12 and 13, 1958. This conference was called to mark the 25th anniversary of the founding of the first graduate course at the University of Chicago.

The success of a year's residency after a graduate course in hospital administration hinges on a seven-point program, said Dr. Agnew. His seven points were:

1. There must be a continuing close relationship between the hospital where the residency is being served and the program in graduate education.

2. There should be adequate orientation of both the student and hospital personnel at the beginning of the residency year.

3. The first six months of the residency should consist of a rotation of duties. The second six months should test the resident's abilities by giving him responsibilities befitting his progress and maturity.

4. Proper sequence of rotation and project responsibility can mean much in the development of the resident.

5. Every residency should include a period of night administration.

6. The preceptor at the hospital should plan the resident's program and check his progress. Department heads should really be "sub-preceptors".

7. Residents should have a guided reading program which will allow them to compare administrative procedures and organization.

The department of hospital administration at the University of Toronto, of which Dr. Agnew is director, is now developing an experimental program whereby the academic aspects of the course can be continued through the second year. This may be achieved by locating the residents in Toronto, Hamilton and elsewhere within driving distance to permit attendance at seminars and other sessions.


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### New Association

Certified nursing assistants throughout Ontario have formed their own provincial association—with an initial membership of 300. It is open to Ontario-trained nursing assistants, and to nursing assistants not from Ontario who meet the provincial requirements and who have been granted certification by the Ontario Department of Health.

The course in Ontario consists of three months' theory followed by seven months of practical hospital training, plus the successful writing of Ontario Department of Health examinations. When they graduate, certified nursing assistants are presented with a distinctive pin and a diploma.

The formation of this association attests the importance of certified nursing assistants. One of its objectives will be to help recruit qualified students.

Founding officers of the Association of Certified Nursing Assistants of Ontario are: *president*—Helen Levett, Hamilton; *first vice-president* — Ruth Campbell, Port Arthur; *second vice-president* — Evelyn Collins, Toronto; *secretary-treasurer*—Wilma Morrison, Hamilton.—*R.N.A.O. News Bulletin.*

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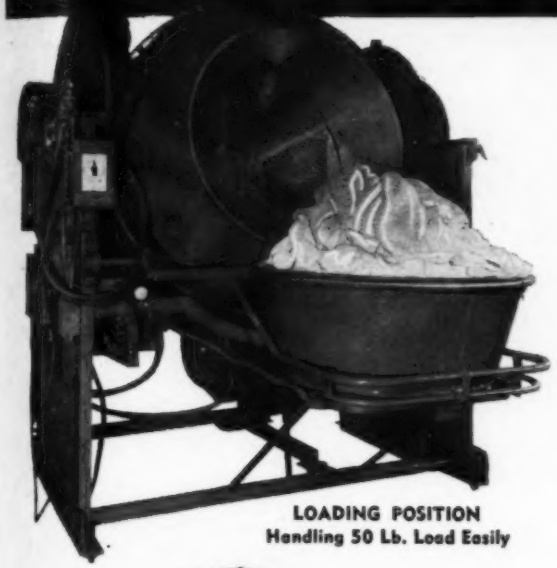

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## Twenty Years Ago

*from Canadian Hospital, February, 1939*

The group hospitalization plan between St. Martha's Hospital, Antigonish, Nova Scotia, and St. Ninian's Parish, Antigonish, went into operation on January the 1st with 89 paid up members. St. Martha's Hospital is now offering hospital care on this basis to three groups, the earlier two being St. Andrew's Co-operative Company and the local society of the Knights of Columbus at Antigonish.

* * *

**Two's Company, but Three's a - - - - -**

This is one for the scrap book. We have read with interest of the early history of hospitals when, in Paris for instance, several patients were assigned to a bed, but had we not heard this from a most reliable and well informed source, we would not have believed that there still exists, in one of the southern states, at least one hospital of considerable size which frequently assigns two patients to a bed! We understand that they are tucked in head to foot. There are even occasions, we are told, when a third patient is assigned to a bed. In such case, however, as narrow beds are used, the newcomer is assigned to a mattress which goes below the bed.

* * *

A simple little arrangement has been developed at the Calgary General Hospital for restraining the arms of patients undergoing operations under local or spinal anaesthetics. It consists of a bag or sleeve into which the arm is inserted, the sleeve is then closed by a zipper. Each sleeve has a wing ending in a strap which goes under the body and permits the upper part of the sleeve to be firmly fastened. By means of a slit the strap of one sleeve goes through the wing of the other. The lower end of the sleeve is held in place by another strap.

### Hypos for Hippos

Antibiotics are being shot, literally, into ailing hippopotamuses and tranquillizers into nervous tigers with a strange new gas-operated rifle called Cap-Chur.

The latest addition to the armament of medical science has been a particular blessing for zoo keepers with surly, sick charges. It looks like a single-barreled shotgun, but it shoots an aluminum-jacketed hypodermic syringe with a short needle in its nose and feathers in its tail for steady flight.

When the syringe hits its target, the needle pierces the skin and the impact produces enough pressure on the syringe to force the medication through the needle. After a dose of antibiotics has been delivered, the syringe can be dislocated with a long stick. However, it usually falls off when the animal begins to walk or run.—*A.M.A. News.*

### Remember these dates

**May 11-13**

On these days the Canadian Hospital Association will hold its 15th biennial meeting at the Queen Elizabeth Hotel in Montreal, Que. An outline of the program will appear in a subsequent issue.


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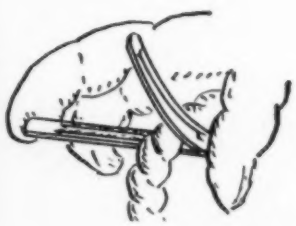

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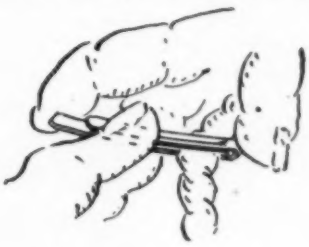

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A NEW UMBILICAL CORD CLAMP.* An important feature is that the size of the locking device is not predetermined. Once the clamp is applied to the cord it may be tightened by putting a little more arch in the clamp. Its overall length is one and a half inches, and the width of the clamp is five-sixteenths of an inch. The lightness of the material is another distinct advantage. The ease of application and sturdiness of its construction make it a very satisfactory instrument. After ascertaining the absence of any abnormality of the cord, the clamp is applied and the cord distal to the clamp is "milked" away for about an inch where a forcep is applied. The cord is then cut. This way there is no spattering of the cord blood which so often is under considerable pressure. After applying an antiseptic to the open end, a piece of gauze with a hole in the center is slipped over the clamp and another square piece of gauze put over the clamp in the conventional manner.—JOHN A. HAUGEN, M.D., Minneapolis, Minn.

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### Machines Act For Vital Organs

At the Royal Victoria Hospital in Montreal a team of specialists, backed by well-organized laboratory and technical services, combined to save the life of a heart patient. The patient, for whom nothing could have been done five years ago, was provided with a mechanical heart-lung machine that took over the circulation of her blood for 20 minutes while her own heart stopped. When the patient entered the hospital she was unable to breathe except in a sitting position and required oxygen constantly. On the operating table it was discovered that her heart was too weak to return the blood from the lower half of the body so the operation was done with the head down and the feet elevated. Specially prepared blood to fill the heart-lung machine was provided by the transfusion service and the patient's damaged mitral valve was repaired. In the recovery room, since the patient was not strong enough to breathe for herself, a tube attached to a mechanical respirator was inserted into her trachea. This machine breathed for her for eight days under the direction of a special respiratory and anaesthetic group.

Meanwhile kidney failure developed and another medical team skilled in handling this condition directed treatment. As the heart, its defect corrected, grew stronger, her whole condition improved and by the eighth day she was breathing comfortably, taking nourishment by mouth and returned to her own room from the recovery room. The patient, the doctors say, should be able to lead a normal life in a few months.—*Montreal Gazette.*

### Red Cross Offers a Fellowship for Graduate Study in Nursing

The Canadian Red Cross Society, keeping in mind its traditional rôle of pioneering in new fields, and in the interest of research in the various fields of nursing, has made available a fellowship for graduate nurses. This fellowship is open to all nurses interested in graduate study in a specialized field, such as research, general education, social work or hospital architecture.

The wording of the announcement is broad, so that the National Nursing Committee may interpret it in terms of current need. It is not intended that the fellowship be awarded to a candidate eligible for the already available bursary and scholarship programs.

Qualifications include professional maturity, registration in Canada, at least a baccalaureate degree, and professional experience covering a period of not less than five years. Preferably the preparation sought should be for a specific position available and accepted by the candidate. However, this does not rule out research which might, if under suitable auspices, constitute the process through which preparation could be obtained. The word research is used in its broadest sense, and is not intended to set a standard beyond the needs which might be presented.

Enquiries should be directed to the National Director of Nursing Services, Canadian Red Cross Society, 95 Wellesley St. E., Toronto, Ontario.

### Accréditation

*(Suite de la page 38)*

Voici donc réalisé le programme entièrement canadien d'accréditation des hôpitaux qui a été l'objet de discussions et de mises au point de la part des organisations intéressées depuis 1950. Ceux qui y assistèrent se rappelleront en particulier la discussion marathon à l'assemblée biennale de l'A.H.C. en 1953. (Elle dura presque jusqu' à une heure du matin.) Quatre ans plus tard, lors de l'assemblée du Saskatchewan en 1957, notre association approuva un programme d'accréditation entièrement canadien, mais pas encore à l'unanimité cependant. Finalement, lors de la réunion d'assemblée tenue à Toronto en 1958, le programme entièrement canadien fut approuvé à l'unanimité par les délégués.

Nous sommes d'accord avec M. le Ministre de la Santé Nationale et du Bien-Etre Social pour dire que le Conseil Canadien pour l'Accréditation des Hôpitaux à une grande tâche à accomplir. Il s'agit non seulement d'intéresser un bien plus grand nombre d'hôpitaux généraux, en particulier ceux de 25 à 100 lits, à cette entreprise, mais il y a aussi le problème de l'établissement de normes applicables aux hôpitaux pour malades chroniques et mentaux. Ayant eu l'avantage de suivre les travaux du programme d'accréditation pendant un certain nombre d'années, et connaissant la valeur des représentants délégués à la Commission Canadienne (maintenant Conseil) par ses organisations membres, nous sommes persuadés que l'avenir de ce programme canadien est assuré. Le *Journal* présente à M. le docteur A. L. Chute, président nouvellement élu, à messieurs les membres du Conseil et à M. le docteur W. I. Taylor, directeur exécutif, ses meilleurs voeux des succès.

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### National Action

"I have been guided by a social principle which I believe to be of signal importance: that the opportunity to emancipate himself from the needless consequences of disability should be regarded as the right and reasonable expectation of every disabled Canadian." These are the words of Edward Dunlop, O.B.E., G.M., in his plea for a national rehabilitation program. He goes on in his publication, *Rehabilitation for the Disabled in Canada —A Plan for National Action*, to describe the situation and suggest what can be done about it.

According to the Canadian Sickness Survey, 1950-51, about 423,000 Canadians, 256,000 of whom were of working age, were severely or totally disabled. Suppose various groups of these people were segregated in cities and towns whose populations approximate their number. Then Kitchener would be entirely populated by people severely or totally disabled through accidents; Prince Rupert would be a town of deaf mutes; the citizens of Windsor would all suffer from disabling forms of arthritis and other rheumatic diseases. Many of these people could be helped by skilled rehabilitation services which would enable them to make the best use of their remaining abilities. For each disabled individual is a mixture of physical and mental assets and liabilities, with a variety of talent, training and experience. Given the proper help, handicapped persons can contribute a lot to industry and to the country. Once they are employed, the money the government will receive from them in income tax will more than compensate for the cost of the program.

"Outstanding rehabilitation agencies do exist in special fields; yet it is a sad reflection that, generally speaking, adequate rehabilitation services are today available to disabled Canadians only insofar as they are representatives of a particular category, such as disabled veterans, industrial accident victims or the blind.

"I believe that it is the duty of Canadian society to provide a proper range of rehabilitation services, readily accessible to all its disabled people, and so to marshall the efforts of its governments and voluntary associations. This is equally a matter of national self-interest, leading to enriched lives for tens of thousands of fellow citizens and their families; to a healthier community, nation and economy."


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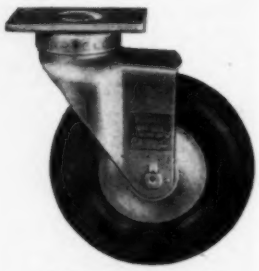

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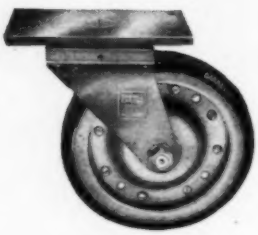

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*(Continued from page 47)*

trical outlet. This outlet is attached to a reel-like device, common to industry, which winds up the cord so that the outlet is always five feet above the operating room floor.

Open shelves are found within all operating rooms as they can be cleaned easily and afford easy access.

For teaching purposes, there are two theatre galleries, one of which can be reached from the non-sterile centre section. The other can be reached only from within the sterile operating room area and is used for special purposes.

An interesting arrangement for procuring sterile caps and masks is found in the non-sterile area. On the outside of two large cupboard doors are mounted two metal containers holding the caps and masks. The doctor, in self-serve fashion, pulls out the bottom article and the others fall down to replace it. When this container is empty it is replaced by another full one. When the caps and masks are sterilized, they are packed into the container and then the entire unit is sterilized, contents and all.

To handle known infectious cases requiring operative procedures, the dirty theatre is located so that it can be entered from the non-sterile area. This reduces the possibility of contamination of the other sterile areas.

## "G" Wing

The two-storey centre section extends from the middle of the new north wing to the old front door of the hospital. This centre section has footings which will permit seven additional floors to be built.

Staff locker rooms and washroom facilities are located in the basement of this centre section. On the first floor are the medical records and diagnostic radiology departments, on each side of a central corridor.

The medical records department has been well planned with storage space in a basement room. Open shelves have been used throughout. A classroom has also been provided for the school of medical record librarians, a school which is an integral part of our medical records department.

The diagnostic radiology department comprises eight radiographic rooms, a preparation room for encephalography, film loading

rooms, patient changing rooms, waiting rooms, and dark room facilities. One radiographic room houses an eight-inch amplifilmer for cineradiography — something new to Canadian hospitals. This is the only machine of its size in use in the country today.

An interesting innovation found in our x-ray department is a six unit stretcher bay. Each bay has rails similar to bed rails. They are four feet high and are anchored to the floor. The stretchers, with patients, are wheeled between these rails. Advantages are many. The patient cannot fall off his stretcher, and therefore can be left unattended—saving staff. Patients do not disturb each other. Thirdly, the stretchers are accessible from both ends. All stretcher patients are controlled in one specific area. And finally, because of the central location, all patients are under the constant view of doctors and technicians at all times. This stretcher bay has proved to be most useful and practical. Undoubtedly, it will have application in other areas, e.g., recovery rooms and casualty wards.

## Physical therapy —the ideal location

The physical therapy department occupies the entire second or top floor of the "G" wing. It has seven treatment cubicles, hydrotherapy and wax treatment facilities and a large gymnasium. An occupational therapy unit is also part of this area. The location of the department is ideal—in the centre of the building, accessible to all wards. It is close to elevators both in the old and new sections of the hospital. It also ties in well with the traffic pattern of the medical staff. Furthermore, the department, because of its second storey location, receives the advantages of good lighting from natural sunlight.

The use of pale coral paint in the treatment rooms and coral tile in the hydrotherapy room adds a feeling of warmth and friendliness to this department.

## The future

This, then, is the present picture at the Winnipeg General Hospital. A new wing with 325 beds, together with 13 new departments to serve these beds and the older sections of the hospital as well. With this north wing added, the hospital is able to care for 925 patients. *(Concluded on page 100)*


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*(Concluded from page 99)*

Although the hospital has increased its service very materially; it is continually looking ahead. A new service wing housing kitchen, stores and cafeteria must be provided. The rest of the floors above the physical therapy department must be built to house a new central supply room, additional space for biochemistry, and a medical research institute. Additional plans are being made for future patient areas. Renovation or replacement of our laundry facilities is under consideration as is a large addition to the admitting, emergency and surgical outpatient departments.

The hospital is truly an institution with ever widening scope—patient care, a major teaching program for 351 student nurses, 75 residents and interns, as well as many other categories of personnel; and a research program — dedicated to serving the hospital and health needs of growing Winnipeg and all of Manitoba. ■

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## Letter to the Editor

Dear Sir:

I read with very great interest and appreciation the excellent series of articles on hospital construction in the October issue. The article by Mr. Gordon Hughes, on architectural drawings, called to my mind a curious situation with which we were faced recently.

Whilst looking over the architects' drawings of the new wing that is now being added to this hospital, I came across the following dimensions on the elevator drawing for distances between finished floors — 10′ 5⅛″, 11′ 6⅜″ and 12′ 2⅜″. This placed us in rather a quandary, since none of our scales, as those illustrated in Mr. Hughes' article, nor indeed any of the rules owned by the contractor, are divided into thirds of an inch.

Enquiry to the architects elicited the information that these measurements come about because of the introduction of module standard in the size of brick construction. This standard has, I understand, been introduced from the U.S.A. and has now been adopted by the principal brick manufacturers in the Maritime Provinces. The size of the module brick is 7⅝″ x 3⅝″ x 2¼″, and, using a ⅜″ joint, they lay up three bricks to eight inches vertical height. Thus 47 courses of brick will produce the vertical height 10′ 5⅛″, 52 courses produce a height 11′ 6⅜″ and 55 courses a height of 12′ 2⅜″.

I myself can see little purpose in this new standard of measurement, but I expect there is some deep-seated motive, not apparent to the poor frustrated hospital administrator.

Perhaps it is designed to help solve our winter unemployment problem; the architectural scale manufacturing industry may need revitalizing and will now receive the necessary shot in the arm, turning out a whole series of new scales and instruments, graduated in thirds of an inch.

Yours truly,
R. H. Stocker, Administator,
Victoria Public Hospital,
Fredericton, N.B.

*Comments are invited.—Edit.*

---

### The Lost Cure

Said a patient to his physician: "I'm worried, doctor. My wife hasn't spoken to me in four days, and for the life of me I can't remember what I said to shut her up."—*A.M.A. News.*

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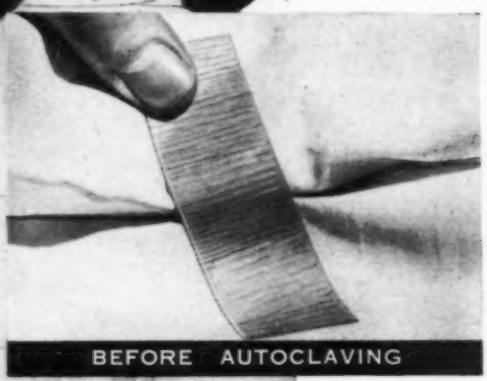

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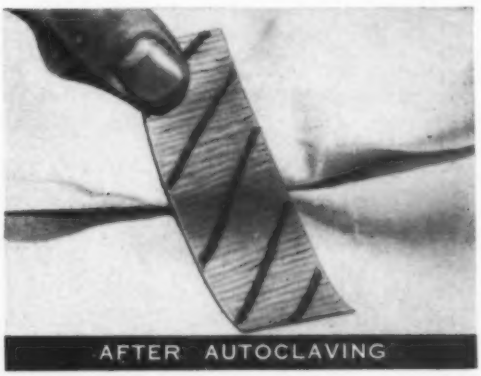

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### Exercise Teamwork

*(Concluded from page 55)*

in the nurses' residence and this handled several "planted" calls of inquiry.

"Exercise Teamwork 1" was the first time-motion evacuation study of simulated patients from an Alberta hospital, so several official observers were present. Top civil defence personnel included Deputy Minister of Health, Dr. A. Somerville who is also deputy chairman of the Alberta Civil Defence Health Services Committee; G. Pringle, northern zone officer; J. W. Stewart, central zone officer; F. Dolphin, public relations officer; J. Robertson, southern zone officer and Lois Kremer, nurse consultant and assistant director of Alberta Civil Defence Health Services. The two last gave invaluable assistance in the many weeks of planning and preparing for the exercise.

These observers, together with representatives from ten hospitals of Southern Alberta, met in the nurses' residence at 1:00 p.m. for a briefing on the exercise. Individual copies of the plan were distributed, and the use of a large diagram on a blackboard proved very helpful in explaining the external and internal flow of traffic. During the exercise the observers moved about in small groups accompanied by hospital staff members. The "follow through" method which was used proved quite satisfactory.

During a time-motion study of this type it is most important to assign specific tasks to certain observers so that the information required will be available later. An observer finds it difficult to cover adequately more than one aspect of such a scheme. Six nurse observers were appointed to follow through on certain patients. Their detailed reports and comments were very valuable. Some of the details pointed up were: no patient should be moved by the stretcher bearers until directed by the nurse in charge; a systematic rotation of patients through the evacuee pool is essential; printing is more acceptable than writing on discharge lists and records; some communication between the driver of the transport vehicle and the attendant in the back with the patients is important, and lighting may be necessary; when large vans are used, the most seriously ill should be loaded last so that they will be unloaded first; the convoy idea of evacuation is not practical unless traffic conditions demand it; some essential equipment, *e.g.* bedpan, urinal, emesis basins, should be available in each vehicle; special arrangements should be made for isolation cases.

Three criticism sessions on "Exercise Teamwork 1" were held—one immediately afterwards, with official observers participating; a second with hospital staff; and the third, a general critique conducted by the Lethbridge Civil Defence Organization with representatives from all services present.

Besides being a valuable learning experience for all concerned "Exercise Teamwork 1" determined the following:

1. The time required to move one-quarter of the hospital patients was one hour and three minutes, therefore it should be possible to evacuate the entire hospital in approximately four hours. This would depend, of course, on available staff, stretcher bearers and transport vehicles. Conversely, a greater proportion of the patients would be ambulatory than was assumed in this exercise.
2. Speedy evacuation is possible without the use of elevators.
3. The hospital could have been ready to admit casualties within one-half hour after the disaster alert.

"Exercise Teamwork 1" was a fine demonstration of real teamwork within a community. Interest and co-operation were maintained from beginning to end, and both hospital and civil defence profited by the experience. It is hoped that this account of the exercise will be helpful to others in testing their hospital disaster plans. ■

---

### Training Posters

An amusing cartoon approach is used in posters prepared by the National Sanitary Supply Association to teach thorough, efficient methods of dusting and polishing. Instruction covers dusting in hard-to-reach places, polishing brass and bronze, care of wood surfaces, and aseptic cleaning techniques. The poster is one of several that have been prepared by the NSSA on the basis of studies made by the Veterans' Administration. Copies are available without charge from the NSSA, 159 N. Dearborn St., Chicago 1, Ill.—*Institutions.*

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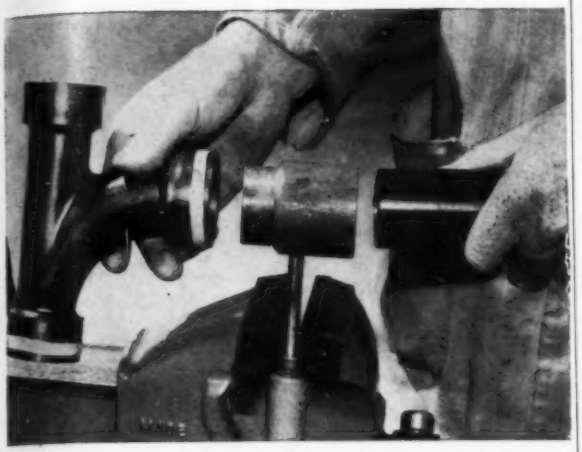

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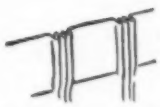

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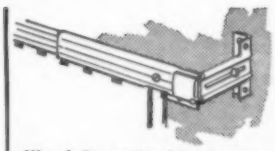

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### B.C.H.I.S. and Public Relations

To help hospitals in overcoming some of the problems in verifying the qualifications of patients making application for hospital insurance benefits, the British Columbia Hospital Insurance Service has prepared the following public education program:

*At His Place of Employment*—Approximately 2,000 business firms, employing a minimum of 15 persons each, have been supplied with books of employer's certificates. To emphasize the reduced waiting period and the importance of taking an employer's certificate to hospital, 12,000 bulletin board notices were distributed to these firms. A covering letter requested the employer to post the notices in prominent places so that all employees would be aware of the certificate's value.

*At His Home*—A future edition of the "British Columbia Government News" will carry an advertisement into the homes and offices of 57,000 persons. It will stress the need of taking written proof of residence to the hospital.

*At His Doctor's Office* -- On October 1 a letter was mailed to approximately 1,800 medical doctors in B.C. The purpose was twofold: to advise the doctor of the recent reduction in the waiting period from 12 months to three months, and to point out the need for elective patients to take proof of residence with them to hospital. The letter also solicited the doctor's co operation in having him ask his receptionist to pass this information on to those patients he is admitting to hospital.

*At His Hospital*—A poster is being prepared for use in the admitting offices and public reception areas of hospitals. It will let patients know that before the B.C. Hospital Insurance Service can pay their bills they must provide the hospital with proof that they are qualified residents.

*In General*—The blue and white "general information" handbook is being revised and a new edition will be printed. Copies will be available to the public from hospitals, health branch offices, government agents, immigration offices, armed forces units, and business firms and industrial organizations.

It is hoped that this program of educating the public to take proper proof of residence with them to hospital will help hospitals in admitting procedures.—*B.C.H.I.S. Bulletin.*


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### Course for Directors of Volunteers

Once again this year from April 15 to 21 a course of instruction for directors of hospital volunteers will be presented jointly by the Montreal General Hospital and the Royal Victoria Hospital in Montreal, Que. This course is open to anyone interested in becoming a director of hospital volunteers or in establishing or sponsoring a department of volunteer services. Other related hospital personnel, members of auxiliaries and other community groups are welcome at the lectures, discussions and workshops which make up the course.

Inquiries should be directed to Flora Baptist, director of the volunteer department of the Montreal General Hospital, or Mrs. I. G. Rose, director of the volunteer department of the Royal Victoria.

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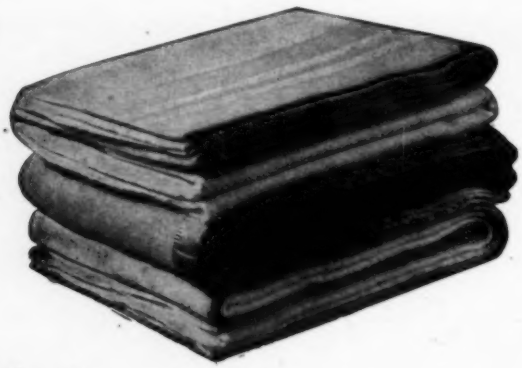

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# Book Reviews

THE ECOLOGY OF THE MEDICAL STUDENT: Report of the Fifth Association of American Medical Colleges Teaching Institute. Edited by Helen Hofer Gee and Robert J. Glaser. Published by the Association of American Medical Colleges, Evanston, Ill. Pp. 262. Price: clothbound—$3.00, paperbound—$2.00.

The fifth AAMC Teaching Institute was devoted to the study of the medical student, specifically to the interaction of the student and his environment. This book reports both the flavour and the content of institute proceedings. It also presents the results of a pre-institute survey and discusses the problems raised by medical educators in small group discussions at the institute. In addition, there are complete papers by several authors, including a number of behavioural scientists who are contributing to medical student evaluation.

The material is organized in four parts: the characteristics of medical schools and medical students, factors affecting medical students, sociological contributions to the study of the medical student, and educational patterns in medicine.

RADIOISOTOPE TECHNIQUES IN CLINICAL RESEARCH AND DIAGNOSIS. By N. Veall, B.Sc., F.Inst.P., and H. Vetter, M.D. Published by Butterworth and Co. (Canada) Ltd., Toronto, 1958. Pp. 417. Illus. Price $10.00.

"At last here is a book which gives all necessary information in a detailed, simple, scientific and accurate way on the diagnostic use of isotopes in medicine," writes Henry Seligman in the foreward to this book. "Written by scientists expert in this field for many years, this book gives a comprehensive view of all that is necessary for a clinician who wants to use isotopes . . . The result is therefore an extremely useful book, which, to my mind should be in every hospital's library and also in the possession of a great number of clinicians."

In the general introduction, the authors themselves say this: "Inasmuch as the progress of this particular 'Peaceful Application of Atomic Energy' depends on continued and closer collaboration between clinicians and workers in the physical sciences, it is hoped that this book will also be of some

value to those hospital physicists who wish to gain a broader view of the problems on which they may at present be engaged in a somewhat specialized capacity."

CRUSADER UNDAUNTED by Max S. Marshall. Published by the Macmillan Company, New York, 1958. In Canada, by Brett-Macmillan, Toronto, Ont. Pp. 246. Price $3.50.

A physician, bacteriologist, and public health officer, Dr. J. C. Geiger doubtless deserves to be called a "crusader undaunted". This is a lively and interesting account of his colourful career. For many years he served as director of public health in San Francisco and Oakland, and he also held a position in the Chicago department of public health. Dr. Geiger took his job very seriously. He led the battle for pasteurization of milk; he tracked down cases of food poisoning with never-ending persistence; he fought to have commercial canning made safe. These were just a few of his crusades.

His attractive personality and strength of purpose make him a man to be admired. This fast-moving biography does that man justice.

THE BIRTH OF NORMAL BABIES. By Lyon P. Strean, M.Sc., Ph.D., D.D.S., F.A.P.H.A. Published by Twayne Publishers, New York, 1958. Pp. 194. Price $3.95.

Years of experimentation and research have led the author to a very important conclusion — the major cause of congenital defects in newborn babies is some kind of stress, physical or emotional, during the first three months of pregnancy. Throughout the book, 60 case histories are reviewed to back up his theory. Above all, Dr. Strean believes that most of these tragedies can be avoided, and he urges women to be especially careful for the first three months they are pregnant. About 90 per cent of all pregnancies result in normal, healthy babies. The author believes that if certain simple precautions are taken, this percentage will rise still higher.

### Residential Courses at Leeds

An experimental series of residential courses for hospital administrators has been introduced by the University of Leeds, England. Courses which started in November were held for three weeks—tuition free. Students lived in residence, the cost for this being the only expense paid by those attending.—*Hospital and Health Management.*


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### A Major Event

*(Concluded from page 49)*

five programs that have been operating since last summer, preliminary cost estimates have been borne out remarkably well by provincial returns. In fact, it would appear that provincial claims to the end of December will be very close to the twenty-seven million dollar figure suggested by federal officials. This degree of accuracy is a matter of some pride to us in the Department of National Health and Welfare.

Again, we have noted a strong interest in improving standards of care on the part of Canadian hospitals. In their trips across the country, our officials have been impressed by the enthusiasm which hospital authorities are showing towards this aspect of the program. This is a development which I imagine many of you have also detected. Certainly, it is one of the most promising signs to emerge from our brief experience with the insurance plan.

Finally, we on the government side take satisfaction from the whole-hearted co-operation by our professional partners in the program. The response of such organizations as the Canadian Medical Association and the Canadian Hospital Association has been most gratifying and has contributed enormously to getting the plan off to the right start.

In this connection, I would remind you of the comment I made in the course of my remarks at the ninety-first annual meeting of the C.M.A. last June in Halifax. On that occasion, I indicated that:

"In the development stages of the hospital insurance program, federal and provincial authorities have enjoyed a good measure of support from organized medicine. Now, however, that the undertaking is about to become a reality, something more than support is required from doctors. What is necessary is, in fact, that physicians as a group take a firm lead in guiding the program towards its objectives."

In other words, I challenged the medical profession to a leadership rôle in the insurance plan. In the intervening six months, I believe it has accepted that challenge. Indeed, the event we are marking here today would seem a dramatic indication that this is the case not only with the medical profession but with hospital organizations as well.

In the years ahead, the Canadian

Council on Hospital Accreditation will likely run into many problems, but I have no doubt that you will meet your responsibilities effectively and to the full. Certainly as far as the federal government is concerned, you can count on our all-out support and co-operation. This is the firm pledge I leave with you on this momentous occasion. ■

### Housekeeping Scholarships

The 11th annual short course in hospital housekeeping will be held from March 30 to May 21 at the Kellogg Centre for Continuing Education, East Lansing, Michigan. Sponsored by the American Hospital Association, in cooperation with Michigan State University, ten scholarships, each worth about $300, will be available through a grant from Huntington Laboratories, Inc., Huntington, Indiana.

The course acquaints students with the latest hospital housekeeping techniques of sanitation and administration. Its enrollment is limited to 40 people. Lectures, discussions, quiz and laboratory periods will be conducted by the faculty of Michigan State University, as well as by guest lecturers. Certificates will be issued to those who complete the course satisfactorily.

Any hospital employee, or employee-to-be, selected by administrator or supervisor, is eligible to compete for a scholarship.

For details about scholarships, write: American Hospital Association, Huntington Laboratories Educational Fund, 18 East Division, Chicago 10, Ill.

### Ottawa Rehabilitation Institute Opened

The Ottawa Rehabilitation Institute was formerly opened on Monday, November 17, 1958, by Dr. G. D. W. Cameron, deputy minister of health, and by Dr. Mackinnon Phillips, then minister of health for Ontario. Both men paid tribute to the 25 organizations which have devoted more than five years to planning the centre. The Institute now provides a combination of professional staff services and treatment equipment towards the welfare of the physically handicapped in Ottawa. Charles O. Lyons, M.S.W., is executive director, and Dr. J. F. Hamel, director of medical services. — *Rehab. in Canada.*


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# Classified Advertising

*Advertisements for insertion should be mailed to Canadian Hospital, 57 Bloor Street West, Toronto 5, Ontario. Rates for classified advertisements are as follows: $3.75 per column inch or fraction thereof, minimum charge $3.75. Display advertisements, set in a box, may be requested on advertisements of 2 inches or larger at no additional charge. ¼ page display advertisement—$25.00. Advertisements must be received by the first of the month to appear in that month's issue.*

### We Wish To Employ

A qualified administrator for a 44 bed hospital located in Yellowknife in the Northwest Territories. The Administrator employed will be responsible for maintaining standards which will enable the hospital to apply for accreditation at the earliest possible date. Applications containing personal details, status and full experience should be forwarded to: Chairman, Yellowknife District Hospital, Inc. Box 2000, Yellowknife, N.W.T. Salary will be arranged commensurate with experience.

### Registered Laboratory Technologist

Wanted for 160 bed hospital. Good salary and personnel policies, well equipped laboratory. Experienced technologists in charge. Apply to Sister Administrator, Pembroke General Hospital, Pembroke, Ontario.

### DIETITIAN
**Required**

**For 810 bed General Hospital**

**Salary Range $3360-$4320**

Complete modern facilities and excellent employee policies. For further information, address enquiries to—

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### UNIVERSITY HOSPITAL
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Now has vacancies for Occupational Therapists in Rehabilitation and Psychiatric areas. New 535 bed progressive teaching hospital. Departments offer additional training under medical supervision in all fields.

Salary $264. to $362.50 depending on qualifications and experience.

Benefits include three weeks annual holiday with pay and three weeks sick leave per year.

Applications should be directed to the Personnel Office,

**University Hospital,**
**Saskatoon, Sask.**

### Administrative Personnel
**Placement Service**

Mary A. Johnson Associates welcomes inquiries from Hospital Trustee and Administrative and Department Head Level Personnel for Hospital and Medical Group positions.

Dr. Johnson is trained and experienced in Hospital administration as well as Personnel Management and is available for Consultation of Personnel needs.

Our files contain many well qualified personnel as well as interesting openings.

We pride ourselves on careful screening of all clients and thorough investigation of openings. Our aim: to match the applicant and the specific position.

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Mary A. Johnson, Ph.D., Director

### Qualified Dietitians

Are needed to complete the staff of six dietitians at the Royal Jubilee Hospital in Victoria, B.C. Excellent personnel policies, 4 weeks' vacation, pension and medical plans, starting salary $280.00. Interesting work in a stimulating environment; new wing planned for future. For details write Miss Mary E. O'Brian, Director of Dietetics.

## KEY EXECUTIVE POSITION BEING ESTABLISHED

With the increased professional activities of the Registered Nurses' Association of Ontario, a new executive position recently has been created, that of ASSISTANT EXECUTIVE SECRETARY.

Responsibilities will be in administration and RNAO committee work. Salary range, related to professional qualifications, is $5,250-$6,560. per annum.

Requirements include organization staff experience or administration experience in nursing service or nursing education. Degree preparation preferred.

Applications should include fullest details of academic and work background, age, when available. ALL will be treated in strict confidence.

Write: Executive Secretary,
Registered Nurses' Association of Ontario,
33 Price Street, Toronto, Ontario.

## CANADA'S CHEMICAL VALLEY
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Qualifications for Assistant Librarian include R.R.L.

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Excellent personnel policies, 5-day week.

For further details and literature concerning the positions and Sarnia, write to

*Personnel Director*

**SARNIA GENERAL HOSPITAL**
**Sarnia, Ontario**

### SUPERINTENDENT HOME FOR AGED

Applications invited for position of Superintendent of new Home for Aged, Peterborough (190 beds) opening late this year. Preference given for somewhat similar administrative experience. Remuneration commensurate with qualifications and ability. Appointment to commence in September but consultive services desirable earlier. All details supplied on inquiry. Application forms will be supplied. Applications close March 7th, 1959.
Write: E. A. Outram, City Clerk, Peterborough, Ont.

### Executive Accountant Wanted

An opportunity is now available in a 250-bed modern general hospital in large Ontario industrial centre for an executive accountant. Salary will be in keeping with qualifications, education and experience. All replies which should contain references will be considered confidential. Please send applications to: Box 214H, Canadian Hospital, 57 Bloor St., W., Toronto 5, Ontario.

### Chief Dietitian Required

The Victoria Union Hospital requires the services of—Chief Dietitian to take charge complete new Department now under construction. Apply stating salary and experience to Secretary of Board of Directors, Victoria Union Hospital, Prince Albert, Sask.

### Position Wanted

I have ten years experience in hospital field in office management, personnel and credit work. I am currently employed but desire to relocate as department head in hospital. Please reply to Box 203T, Canadian Hospital, 57 Bloor St. West, Toronto 5, Ontario.

### Director of Nursing Wanted

For a 180-bed hospital with a school of nursing. Applicant with University degree and or post-graduate course preferred. Salary commensurate with experience and qualifications, position available May 1959. Apply—Secretary, Board of Directors, Victoria Union Hospital, Prince Albert, Saskatchewan.

### Laundry Manager Available

Experienced in all phases of laundry operation and management. Can locate anywhere. Write to Robert G. Howard, Box 11 Belfountain, Ont.

### ASSISTANT DIETITIAN REQUIRED

Please apply stating
Experience and Qualifications
to
The Superintendent
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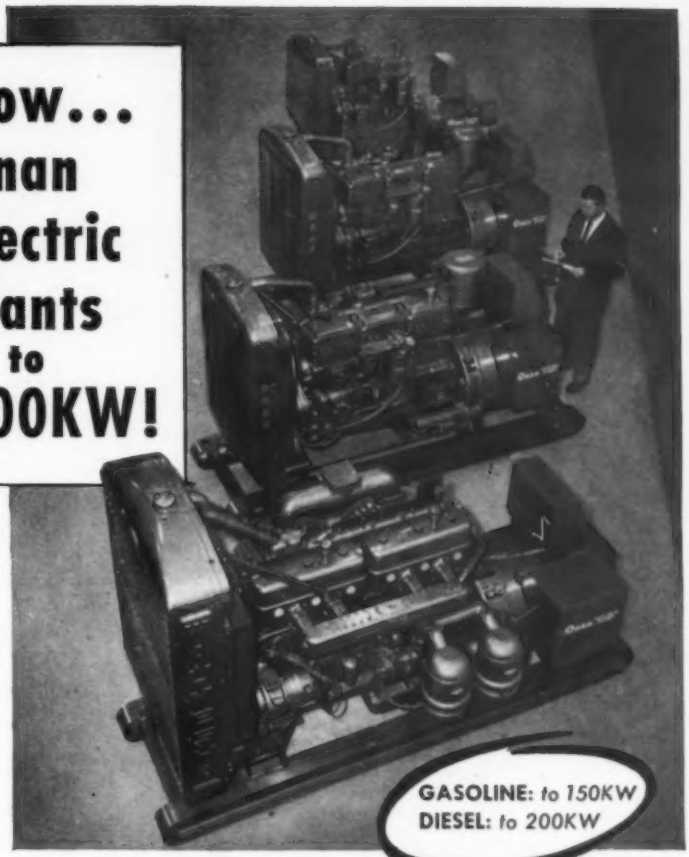


*New Magneciter* Generator gives important performance advantages*

Now you can have Onan engineering and Onan dependability in high-capacity plants, too! In gasoline-powered models, 100, 125, and 150KW sizes have been added to the line. New diesel models include 10, 15, 25, 35, 50, 60, 75, 100, 125, 150, 175, and 200KW capacities. All standard voltages are available.

All models are powered by heavy-duty industrial engines matched to the power requirements of the generator. Custom modifications to meet the needs of particular applications add to the versatility of the new Onan line. Automatic controls for standby installations are available for each model.

*All plants 100KW and larger are Magneciter-equipped*

This new Onan generator with static exciter and voltage regulator has these advantages for both standby and primary power installations:

- **Simplicity** — Eliminates hundreds of electrical connections, the commutator and its brush rig.
- **Constant voltage** — Voltage dip is less than 20% with motor starting load. Stable generator operating conditions re-establish within two seconds after load is applied.
- **Lighter weight, more compact** — Plants are shorter by a foot or more, lighter in weight.
- **Less maintenance, easier servicing** — The static exciter and regulator are externally mounted and easily accessible.

*Onan alternator with static excitation and static voltage regulation.

*Specification kit available now! Write for it!*

Onan builds electric plants from 500 watts to 150KW, gasoline-powered; 3,000 watts to 200KW, Diesel-powered.

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ELECTRIC PLANTS - AIR-COOLED ENGINES - KAB KOOLER - GENERATORS

Onan ELECTRIC PLANTS

**Changes in Diet**
*(Concluded from page 68)*

the level of blood lipids, especially cholesterol, and secondly, there is the rôle that elevated blood lipids, especially cholesterol again, may play in the actual production of the disease. Although a great deal of information has been gained about factors that will influence the level of serum cholesterol, there is very little, if any, proof that the level of serum cholesterol is causally related to the development of arteriosclerosis.

For a while it was recommended that low cholesterol diets be used in an attempt to prevent coronary artery disease. For reasons given earlier, such diets have been largely discarded. Later it was recommended that diets low in total fat be given. Recent research makes it obvious that fat can no longer be considered as a single entity but that attention must be paid to specific fats or components. Thus, recently, it has been shown that not only will diets low in total fat reduce the serum cholesterol, but that diets in which vegetable fats predominate will also lower the serum cholesterol. But when animal fats in equivalent amounts are given, the cholesterol level will remain unchanged or will actually rise. It is not entirely clear why vegetable fats are so effective, but it has been suggested that possibly the important element is that they are chiefly unsaturated fats, that is, they contain in their molecular structures numerous double bonds.

Fat is a concentrated source of energy, contributing palatability to the diet and exerting a protein sparing effect. Before recommendations are made to the public about the nature or quantity of fat in its diet, it is necessary that the experimental evidence for such recommendations be conclusive and incontrovertible. If it is true, for instance, that a low fat intake is desirable we would have to re-examine completely the question of diets in diabetes mellitus. Diabetes mellitus is a condition in which arteriosclerotic complications occur more commonly than in the average population at the same age level. Thus, means of avoiding these complications are especially pertinent. However, for years it has been customary to treat diabetics with relatively low carbohydrate diets. This is so for at least two reasons. A low carbohydrate intake decreases the amount of insulin required; it also smoothes the course of diabetic control. However, the fat content of traditional diabetic diets that are low in carbohydrate must be high and very often provides over 50 per cent of the total caloric intake. One of our leading nutritionists, Professor McHenry of Toronto, recommends in his recent book, "Basic Nutrition", that about 25 per cent of the total calories in the diet be given in the form of fat. When one tries to do this in diabetic practice, one finds that, at higher caloric levels, the amount of carbohydrate that must be given to permit this low fat intake is far too great to be practical in the management of the patient. In fact, it will be difficult to reduce the fat intake in diabetic diets to the point where it contributes even as low as 35 per cent of the calories.

The influences of salt on hypertension and dietary fat on arteriosclerosis illustrate one of the major dilemmas confronting the nutritionist today. He must be amenable to change, but he must not be too hasty in accepting new diets before their scientific foundations have been firmly established. Furthermore, what is applicable to patients, may not necessarily be so to the public. ■

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*Throughout our wide land.*
*To hospital folks*
*It's a fine cotton brand.*
*There are unbleached and bleached lines*
*For all kinds of wear,*
*And a popular green one*
*Which cuts down on glare!*
*There are weights, there are weaves*
*Which you're sure to require,*
*Some are 'Sanforized' finished—*
*All are what you desire!*

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*To provide every advantage for the new-born or premature infant . . .*

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infant incubator by AIR-SHIELDS CANADA, LTD.

- True isolation
- Ease of cleaning
- Precise control of environment
- Unique $O_2$-limiting valve
- Removable power unit
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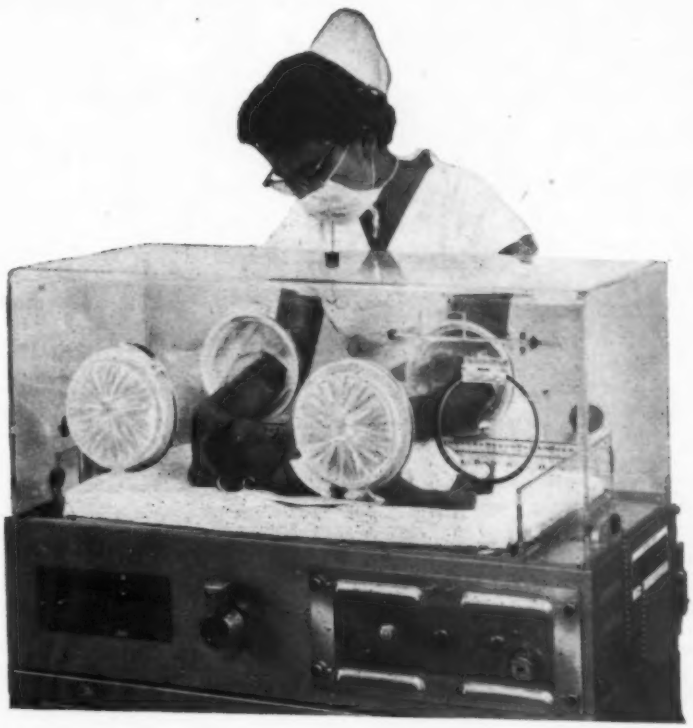


**The new model C-77 Isolette** infant incubator has been designed to provide many important new features while retaining all the precise atmospheric controls of the earlier model. In addition all ISOLETTE accessories—the VAPOJETTE®, ISOLETTE ROCKER, and weighing scale—fit the new C-77 ISOLETTE.

THE NEWLY DESIGNED ISOLETTE infant incubator (Model C-77) retains and refines *all* the outstanding advantages of the earlier model, and provides many important new features as well:

**True isolation**—(1) by use of air from *outside* the hospital or, (2) by use of the new MICRO-FILTER which removes 99.50% of contaminants as small as 0.5 micron (average *staphylococcus* is 0.8 micron*) from *nursery* air. Thus, a constant supply of pathogen-free air from outside the hospital, or micro-filtered nursery air safeguards the infant from air-borne or droplet infection.

**Easily cleaned**—one-piece, smooth aluminum conditioning chamber, with rounded inside corners—no inaccessible areas to become contaminated with bacteria.

**Relative humidity control**—simple to operate and easy to clean—maintains stable R.H. as high as 85% to 100%, independent of temperature.

**Temperature control within** ±1°F.

**Efficient cooling system** ensures safe incubator temperatures even when nursery temperature exceeds 95°F.

**Unique $O_2$-limiting valve**—restricts concentration to 40% even when high flows are used by unique "relief" valve which bleeds excess oxygen outside the ISOLETTE. Low or high concentrations can also be maintained.

**Removable power unit**—compact, lightweight power unit containing heating element, operating and safety thermostats, and air-circulating blower fits snugly beneath conditioning chamber. The new power unit is easily removed for replacement of parts.

For additional information about the *new, model C-77* ISOLETTE, phone us collect (Roger 6-5444) or write AIR-SHIELDS (CANADA) LTD., 8 Ripley Ave., Toronto 3, Ontario.

*Zinsser, H.: Bacteriology, ed. 11, New York, D. Appleton-Century Company, Inc. 1957, p. 244.

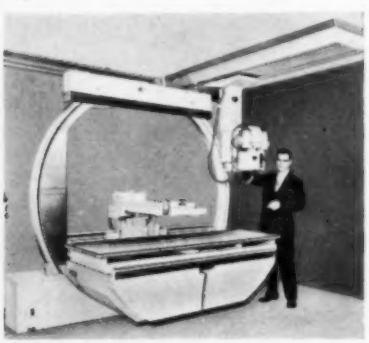
*News Released by Hospital Supply Houses*

By C.A.E.

**General Electric "Mark-II" Diagnostic X-Ray Unit**

"It seems to be weightless . . . as if the entire tube hanger were suspended by invisible balloons", This was a typical comment made by radiologists who tried out the new General Electric Imperial "Mark-II" diagnostic x-ray unit which was exhibited for the first time during the Radiological Society of North America meeting in Chicago, November 17-21, at the Palmer House.

Every function of the new Imperial II is so exactly counterbalanced and under such exact and simplified control that, according to G.E., its ease of handling allows the radiologist and technician to devote their undivided attention to the patient. Manipulation of the new x-ray unit becomes practically an automatic reflex action.



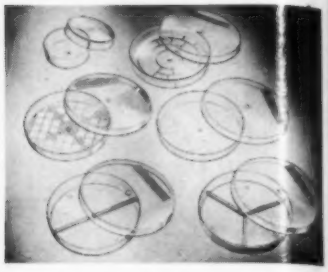
One of the new Imperial II features is an entirely new concept in bilateral overhead tube-hanger design, which totally eliminates the "pull" of high-voltage cables, thereby removing a major impediment to exact tube positioning. In the new General Electric system the radiographic cables are visible only where they attach to the tube unit. They then disappear into the movable overhead rail and reappear only at the selected transformer site. The effect is that of "wireless" radiography!

The Imperial has a newly-designed spot-film unit which will retain shutter diaphragm settings regardless of table angulation. Shutter settings can not be disturbed by any factors other than actual rotation of the control knobs. A new "zero-play" linkage system provides instant shutter response and eliminates back-lash.

"The prime objective in the design of the new Imperial II was to provide the radiologist and x-ray technician with equipment that gives them the greatest feel and control without unneeessary employment of artificial boosts and assists. Although this system involved greater design problems, the result seems to justify the extra development time spent", a G-E spokesman said.

**Disposable Pre-Sterilized Petri Dishes**

Laboratories can now purchase pre-sterilized Petri dishes so low-priced that it's cheaper to use them once and throw them away than to wash glass dishes. Fisher Scientific offers standard Petri dishes with covers, made of clear polystyrene plastic, for a nickel apiece in 12-case lots. And laboratories may spread their deliveries over a year, if they wish. These disposable Petri dishes cost far less than the price laboratories would pay to have someone scrape out the agar, wash, dry, and re-sterilize glass Petri dishes.



Fisher Scientific is the exclusive source of these disposable dishes in the U.S.A. east of the Rockies, and in Canada and Mexico. They're packed 20 in a sterile plastic bag, 500 to a case—ready to open, use, and throw away.

All dishes are crystal clear, moulded polystyrene. The covers have etched rectangles for marking. In addition to standard round dishes, Fisher offers square, radial grid, square grid, bi-plate and tri-plate models.

Further particulars from Fisher Scientific Limited, Montreal 9.

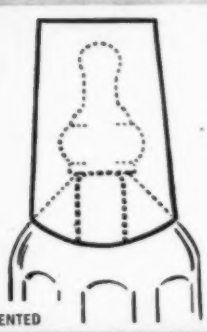
**White Offers "Silent" Line of Floor Cleaning Equipment**

The White Mop Wringer Company, Fultonville, N.Y., and Paris, Ontario, has announced its new, improved "Silent" line of floor cleaning equipment. Designed for hospitals and institutions where silence is essential, the new commercial cleaning equipment is ideal for all public buildings where cleaning must be done during building occupancy.

The new line includes oval mop buckets, silent mop wringers and a specially sound-proofed mopping truck. Silence is achieved through the use of heavy-duty rubber insulators at all contact points, the use of friction bails on bucket

*(Continued on page 116)*

**Remember...**



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**DISPOSABLE NIPPLE COVERS . . .**

provide space for identification and formula data . . . instantly applied to nipple; save nurses time...cover both nipple and bottleneck. Do not jar off. No breakage. Use No. 2 NipGard for narrow neck bottle . . . use No. H-50 NipGard for wide mouth (Hygeia type) bottle. Be sure to specify type desired.

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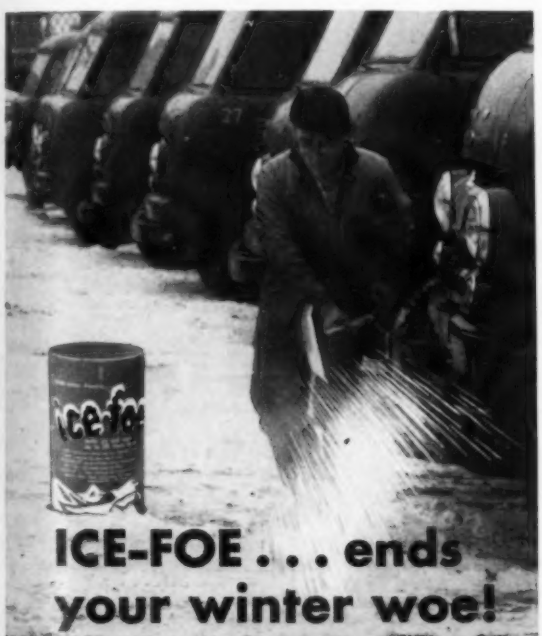


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Ice-Foe melts ice and snow up to 30 times faster ...leaves no messy rings or residue...economically priced in sturdy 100-pound drums. Write or call Avmor Ltd., 431 ST. Helen St., Montreal, Quebec, for the name of your local jobber.

**WILSON** *from pre-planning to completed installation*

Illustrated is a part of the pharmacy—dispensary at St. Justine's Hospital for Children in Montreal.

Its efficiency and its pleasant atmosphere grew from the co-operation between hospital authorities, Wilson representatives, the architects and building contractors. We call our part of this teamwork the Wilson 3-way package plan. It works this way;

1. Early preliminary planning with Wilson experts helps ensure efficient and economical design. 2. Wilson offers the widest range of lab furniture and capital equipment. 3. Wilson supervises installation to ensure maximum satisfaction.

Before you plan your next laboratory, pharmacy or other similar installation, why not investigate this WILSON 3-way plan?

*james h.* **WILSON** *limited*
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**The Quebec Hospital Show**
March 4 - 5 - 6, Booths 52 - 53 - 54
The Windsor Hotel, Montreal

### Across the Desk

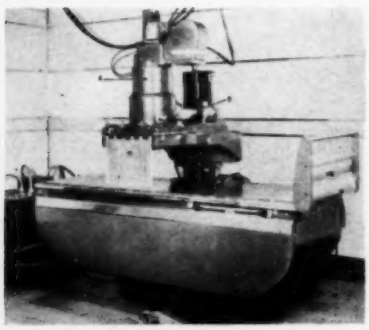
*(Continued from page 114)*

handles, and cushion rubber casters on truck chassis. Buckets in the "Silent" line are available in 16 qt. through 50 qt. capacity.

Moulded rubber bucket bottom feet, friction handle bail and rubber insulator on handle make these White buckets the most nearly silent of any on the market. They can be dropped from a height of two feet with no objectionable noise.

### X-Ray Device Introduced by Zenith Subsidiary

The Rauland Corporation, a subsidiary of Zenith Radio Corporation, have introduced a new x-ray image amplifier with which the physician can view an image at least 350 times brighter than that on a fluorescent screen, and reduce substantially the total amount of radiation to which both patient and physician are exposed during x-ray examination.



The brilliant image and large sized pick-up screen of the amplifier permit good viewing of the entire adult heart, of the complete stomach, or of the colon while barium salts are moving through, and other portions of the body which are too thick to permit a bright enough image on a fluorescent screen even with excessive radiation.

The device, described by Rauland as the first large sized all-purpose image amplifier for x-ray, was jointly demonstrated to the press in new diagnostic and cardiological x-ray equipment produced by the Picker X-Ray Corporation of Cleveland, a wholly owned affiliate of C.I.T. Financial Corporation.

The pick-up screen of the Rauland image tube supplies a useful area of at least 41 square inches, in contrast to other image tubes used for medical x-ray that have a viewable field of only 16 square inches. Because of the screen's large area, the physician requires less time to locate the region he wants to scrutinize, thus reducing the patient's exposure time to radiation. Further, the high brightness of the image on the Rauland amplifier tube permits the diagnostician to cut down x-ray intensity and still achieve an image better in quality than that obtained by fluoroscopy without an image converter. The diagnostician, who is exposed to x-ray frequently, and in some cases daily, can even eliminate radiation to himself by viewing the image on a television screen located in another room. If he so desires, he can also make use of the closed-circuit television method to consult with other physicians.

Complete information is available from Picker X-Ray Engineering Limited, Montreal.

### Appointments at Lily Cups

H. R. Kobrick, executive vice-president of Lily Cups Limited, Toronto, has announced the appointment of B. M. Rutter as sales promotion manager. Mr. Rutter has a sound working knowledge of both advertising and sales promotion, having gained extensive practical experience in the manufacturing fields, sales and agency work.

*B. M. Rutter*

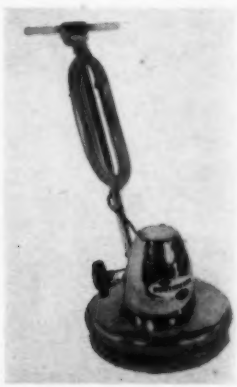
*Cecille Allan*

For the past four years Cecille Allan, assistant to the sales promotion manager at Lily Cups Ltd., has had much practical experience in the field of institutional and mass feeding operations. Due to the tremendous developments and the increasing application of paper service in this field, Miss Allan will now act as institutional market specialist, making available a complete information service to this market.

### Huntington Introduces Improved Silent Floor Machine

Huntington Laboratories has announced a new 20-inch silent Huntington Floor Machine with a new type of gear reducer, a separate unit from the motor that assures quieter operation and simpler repair.

The new Model 20-E is perfectly balanced for ease of operation. Since the maintenance man can manoeuvre the machine with a slight pressure from his fingers, his fatigue is greatly reduced. The big one-horsepower motor rests directly over the brush with the weight assuring balance, uniform coverage and effective use of power. Runaways are prevented by the safety switch which instantly stops the machine once the grip on the handle is released.



This machine is available with more interchangeable accessories than any other previous Huntington model. It comes equipped with 50 feet of cable; a hair-trigger which turns the machine on and off with pressure from either hand; a simple reversal mechanism which reverses the rotation of the brush; and an optional handle adjustment that easily adjusts the

*(Continued on page 118)*

# PREGNANCY TESTS

OLDEST AND LARGEST
CANADIAN SUPPLIERS
OF
CANADIAN FROGS
(RANA PIPIENS)
TO
CANADIAN LABORATORIES

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Wood's Lathurn Toilet Soaps are made under constant laboratory control

LATHURN DISPENSERS with stainless steel valves... fit flat on the wall

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APRONS
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*and of course*

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### Across the Desk

*(Continued from page 116)*

handle to any angle through an arc of 90 degrees from vertical.

The new silent Huntington Floor Machine polishes, scrubs, sands, seals, waxes, steel wools and shampoos floors, all quietly. This machine, one of the quietest on the market, should appeal especially to hospitals and multi-work shift institutions. Gears never require lubrication and the machine will remain quiet even after years of service.

For further information write: Huntington Laboratories Limited, Toronto 2, Ontario.

### New Keleket Intensifier

As part of a continuing engineering effort to reduce radiation exposure, Keleket X-Ray Corporation, a division of Tracerlab, Inc., has developed a new image intensifier for fluoroscopic studies utilizing a compact optical system designed by Keleket's engineering staff which offers easy binocular viewing of the image of a 5″ field intensified 1000x.

Developed principally to meet the needs of radiologist and hospital x-ray clinics, the device is compact enough to permit normal access to the fluroscopic mechanism, and can be connected or disconnected in seconds by a special quick release clamp.

The purpose of the unit is to provide a clear image for diagnostic purposes while reducing the radiation exposure to patient and doctor. Enough radiation is used to give a faint image which is then sharpened and intensified by a conventional 5″ high voltage electron image amplifying tube.

### Plant to Manufacture Aureomycin in Canada

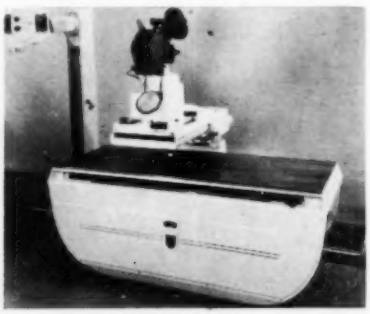
Cyanamid of Canada Limited has announced that construction will begin soon on Canada's first Aureomycin chlortetracycline plant, a major addition to their production facilities in Canada. The new plant, costing more than $1,000,000, will be located at the site of the company's present Welland plant between Niagara Falls and Welland, Ontario.

The announcement was made at the head office in Montreal by Dr. L. P. Moore, president. He stated that Aureomycin, a Cyanamid discovery, was the first of the "broad spectrum" antibiotics and that this compound and its derivative, Achromycin tetracycline, will now be manufactured entirely in Canada. Previously, refining and conversion processes were carried out only in the Montreal plant using crude Aureomycin imported from the United States.

"The new fermentation plant will have ample capacity to meet all Canadian requirements now and in the foreseeable future, both for pharmaceutical products for human beings, and for the manufacture of Aurofac Aureomycin chlortetracycline, and is expected to be in production by the fall of 1959," said Dr. Moore. Aurofac is an animal feed supplement.

### Medical Fluoroscopy Now Many Times Brighter

Up to 1,500 times more intensity is provided by a new 9-inch Norelco image intensifier, making daylight fluoroscopy practical in medical x-ray examinations, it was announced recently by Philips Electronic Industries Limited, Toronto. Ever since the dangers of prolonged exposure to x-rays were first realized, engineers have constantly sought ways to provide better visual images. Encouraged by the development of improved cathode ray tubes, Philips experts designed and introduced the first image intensifier. This was a compact 5-inch unit that eliminated many of the inconveniences and



problems associated with fluoroscopic examinations — over 2,000 went into daily use in medical circles.

Now, Philips introduces another engineering achievement — an image intensifier with a wide-screen 9-inch image—a size which is essential when examinations require related observations over large areas. Images are up to 1,500 times brighter in the new 63 square-inch field than was possible with old fluoroscopic units.

The dangers associated with over-exposure have been practically eliminated since the dosage now required to produce intensified images in a lighted room is but a fraction of that needed under the old system. Fluoroscopy can now be carried on with a minimum of scanning and this permits regular use in routine diagnosis. The screen with a large diameter accommodates images of the entire skull, the area from esophagus to duodenum, and the heart even when enlarged.

The optical system permits viewing by one or two observers and allows simultaneous recording of images on 35 or 16 mm movie film. The high intensity makes it practical to transmit images via closed circuit television for group viewing, consultations and teaching purposes by attaching a video pick-up to the intensifier.

The Philips image intensifier brings the viewed image close to the patient for convenience in manipulation. Two viewers can be adjusted independently and the adjustable mirror allows the use of natural fluoroscopic viewing positions.

### MacEachern's Wax Stripper Is Effective

After a year's field testing, Gordon A. MacEachern has recently released to the retail trade "X-IT" Wax Stripper. Packaged attractively in a polyethylene container, "X-IT" will instantly remove old wax 'build-up' from mastic, linoleum, vinyl, asphalt, rubber or terrazzo floors. It is not harmful to hands and is non-abrasive. No additives are required. This wax stripper is also an excellent heavy duty detergent and may be used for cleaning walls, woodwork, stoves, sinks, porcelain, or painted surfaces.

This product joins the growing list of "job-tested" retail items manufactured and used exclusively by Gordon A. MacEachern Limited, Floor Finishing Specialists.

### Electric Water Coolers Described in New Cordley Catalogue

A new 20-page, illustrated catalogue that describes the complete line of Cordley & Hayes electric water coolers is now available for distribution, the company has announced.

Given the designation No. 59, the new catalogue illustrates all Cordley models (standard, compact, hot-

*(Concluded on next page)*

# YOU'RE NEVER IN DOUBT WHEN IT'S "Alconox-Clean!"

In the laboratory or hospital, just "clean" isn't good enough. Make sure your glassware and equipment are "Alconox-Clean."

**Proven best by test* for over 20 years!**

*** for wetting power!**

*** for sequestering power!**

*** for emulsifying effect!**

**Use ALCONOX**
For all equipment washed by hand
Box of 3 lbs. .... $2.18
Case of 12 boxes— 3 lb. ea. $23.54
Available in drums of 25, 50, 100 and 300 lbs. at additional savings!
(Canadian Prices)

**SAVE TIME AND MONEY! with ALCONOX**

**The World's Most Thorough Cleaner— Yet it costs up to 75% less!**

Eliminates tedious scrubbing – Penetrates irregular and inaccessible surfaces – Removes dirt, grease, grit, blood, tissue, etc. with amazing ease – Completely soluble and rinsable – Gentle to the skin –

**Use ALCOJET**
For all equipment washed by machine
Box 5 lbs. .... $3.90
Case of 6 boxes— 5 lbs. ea. $19.50
Available in drums of 25, 50, 100 and 300 lbs. at additional savings!
(Canadian Prices)

Clean Pipettes in one easy operation with ALCOTABS — for all pipette washers. Box of 100 Tablets $6.50

*Order from your Supplier or ask for Samples.*

**Canadian Laboratory SUPPLIES**
LIMITED
MONTREAL TORONTO
OTTAWA — WINNIPEG — EDMONTON


cold, explosion-proof, refrigerator storage) and gives capacity data, technical and roughing-in details for each. In addition, photographs show interior construction, including compressor motors, tubing and storage compartments.

Text material also describes the unique Hot-Tap attachments that supply 190-degree water through standard coolers; the Cordley-Rac that permits wall suspension of certain coolers; and other special water cooler accessories.

Also included are helpful hints on how to select the right cooler, best location sites and installation method.

For copies of the new Catalogue No. 59, write: Cordley & Hayes, New York 16, N.Y.

### Major Surgical Light Literature Available

A bulletin on the "Castle 69", a new, low cost major surgical light is now available from Wilmot Castle Company.

The "69 Light" was especially designed for hospitals operating on a low budget. Despite its economical cost it incorporates many of the design features of the lights in the famous Castle "60 Series". Floating action provides effortless movement along a compact tract and the light may be swung down to direct illumination from extreme low angle side and end positions without crowding the surgical team. Commutator head enables the light to be rotated in a continuous 360° arc from either end of the track. Light is beamed from four separate pre-focused, multistep reflectors, each of which directs 28 beams into the surgical cavity. No reflection or glare is produced even if the surgeons' hands or instruments are placed between the light and operating field. Its deep focus feature provides a constant light pattern within a 30" to 60" range from the operating table and obviates the necessity for frequent adjustment of the light during surgical procedures.

The Castle 69 is colour corrected and heat filtered so that the temperature of light more than two inches from the cover plate will not exceed 2°C. over ambient temperature.

The illustrated bulletin contains both descriptive material and technical data. It may be obtained by requesting "Sub-Section 68" from the advertising department, Wilmot Castle Company, Rochester, New York.

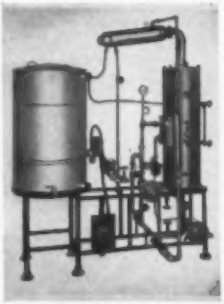

# BARNSTEAD WATER STILLS

## FOR THE LABORATORY

Wherever high purity, pyrogen-free water is a must . . . in the operating room, laboratory, solution room, blood bank, and pharmacy . . . you'll find Barnstead Still as standard equipment . . . the choice of practically all leading hospitals . . . since 1878. Right: Model ELQ-1. Electric. 1 g.p.h.

## CENTRAL SUPPLY

Barnstead Still and Tank combination with full automatic controls . . . self-starting, self-stopping and self-flushing. No manual attention needed . . . Produces highest purity, pyrogen-free water obtainable . . . year after year. Model SMQ-10. Steam-heated. 10 g.p.h.



## PHARMACY

SMQ-15V wall mounted model was designed to meet today's increased demands for distilled water in the pharmacies of larger hospitals. Requires less space . . . costs less because it does the work of several small stills.

**WRITE FOR HOSPITAL CATALOG "H"**

**Barnstead STILL & STERILIZER CO.**

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Lanesville Terrace, Boston 31, Mass.

**FIRST IN PURE WATER SINCE 1878**

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